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ABSTRACT

The planning and design of child care centers has been undertaken without sufficient knowledge of children's spatial behavior, resulting in centers not providing appropriate physical conditions for young children's developmental needs. Research suggests that physical environment is important in supporting child development. Child care settings convey silent messages about the intentions of the caregivers and administrators, which can also influence children's behavior. The physical space requirements and activities of the preschool environment should reflect person-environment relationships which meet children's needs for personal space and privacy. This workbook contains exercises and other learning materials for young students that follow principles of good design. The book contains the following units: (1) "Goal Setting"; (2) "What Is a Learning Environment," including components of a learning center, along with how to create and rate learning centers; (3) "Playroom Design Principles," focusing on light and color, planning, and modeling the playroom; (4) "Building Image"; (5) "Planning the Facility"; and (6) "Planning Outdoor Play," including play zones, planning outdoor play (POP), playground safety, playground document scale, and mapping children's behavior. (Contains 103 references.) (BGC)

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Creating Environments for Young Children

HENRY SANOFF
NORTH CAROLINA STATE UNIVERSITY

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NATIONAL ENDOWMENT FOR THE ARTS

PREFACE

This workbook is about a long neglected aspect of early childhood education- the impact of the physical environment on child development. This lack of awareness has had a significant impact on the quality of everyday learning places and the inability of early childhood educators to make a difference in planning and designing new facilities. Until teachers are equipped with the knowledge, skills, principles, and general awareness of the designed environment, they will continue to be powerless as advocates for improving the quality of the physical environment.

Teachers are not usually involved in the process of creating new or remodeled environments for young children. This conscious avoidance has occurred as a result of the collective experience of designers who have found difficulty in communicating with early childhood educators. The difficulty lies in the gap between children's needs as eloquently expressed by teachers and the fact that it does not correspond to the type of information necessary to make spatial design decisions. The absence of effective resource materials pertaining to learning environments is further evidence of a conspicuous void in the early childhood literature.

Therefore, the aim of this book is to bridge the information and language gap by identifying key issues that will not only allow teachers to improve their own preschool playroom environment, but to help them become a valuable asset in the process of designing new environments for young children.

The Author

Henry Sanoff, AIA, is a Distinguished Professor of Architecture at the School of Design, North Carolina State University. He is recognized as one of the founders of the Environmental Design Resarch Association (EDRA) in 1969. Professor Sanoff is widely published and well known for his many books—including *School Design: Planning with People, 1994; Integrating Programming Evaluation and Participation in Design,* 1993; *Visual Research Methods in Design,* 1991; *Participatory Design: Theory and Techniques,* 1990; *Learning Environments for Children,* 1989; *Planning Outdoor Play,* 1982, *Design Games,* 1978; *Designing with Community Participation,* 1978; and *Methods of Architectural Programming,* 1977, several of which have been translated into the Korean and Japanese languages. He has written over seventy articles and chapters in international and American journals and publications. He has also been invited as a keynote speaker at conferences in the USA, Japan, Korea, Australia, and New Zealand, and has been a visiting lecturer at more than 85 institutions in the USA and abroad.

Among his honors, Professor Sanoff received the Statue of Victory, 1985 World Culture Prize for Letters, Arts, and Science; awards from Progressive Architecture Design Awards Program in 1974, 1978, and 1983; and the Award of Honor, Environmental Design Research Association, 1977. He has held many international fellowships including the Chettle Fellowship, University of Sydney, 1990; Nell Norris Fellowship, University of Melbourne, 1987; Lecture Fellowship, Institute of South African Architects, 1990; and the Distinguished Fulbright Award to Seoul National University, Korea, 1990.

In addition, Professor Sanoff has served as an architectural consultant in the design of several children's centers, including the centers at Wake Technical Community College (NC), Greenville Technical Community College (SC), and SUNY Stoneybrook (NY). He has also served as design consultant to The Adams Group Architects in the design and programming of the Davidson Elementary School and University Park Arts Magnet in Charlotte, NC, the Lyford Cay School in Nassau, Bahamas, and the Minnesota Center for Arts Education.

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INTRODUCTION

In recent years there has been a surge in the construction of child care facilities. This is particularly crucial since the number of children attending some center based child care is rapidly increasing. The design and planning of child care centers, however, are approached with very little knowledge of children's spatial behavior. From the limited research related to children's environments, it is becoming evident that new facilities are meeting health and safety standards required by state licensing laws, but are not providing the appropriate physical conditions necessary for the developmental needs of young children.

Research studies have shown that the most critical period of development occurs in children under the age of five. During these critical years the child's intellectual, emotional, and social development are affected by the quality of his or her experiences and the environment. Theories like those of Piaget and Montessori stress that the environment involves physical components that have measurable impacts on cognitive development. Loris Malaguzzi (1984) of Reggio Emilia, an Italian town internationally renowned for innovative preschool programs, of which he is the founder describes the importance of the physical environment in this way:

"We value space because of its power to organize, promote pleasant relationships between people of different ages, create a handsome environment, provide changes, promote choices and activity, and its potential for sparking all kinds of social, effective, and cognitive learning. All this contributes to a sense of well-being and security in children. We also think that the space has to be a sort of aquarium which mirrors the ideas, values, attitudes, and cultures of the people who live within it."

A physical environment rich in resources that the child can explore, test, and learn from has the most dramatic effect on the learning capacity and skills of children as well as on their behavior and attitudes. In order for optimum development to occur, the environment must be one that is easily accessible and logically arranged. This instills confidence and builds independence in the child. Because children's responses are immediate from the sources of stimulation around them, the physical environment is just as important as books, toys, and lesson plans.

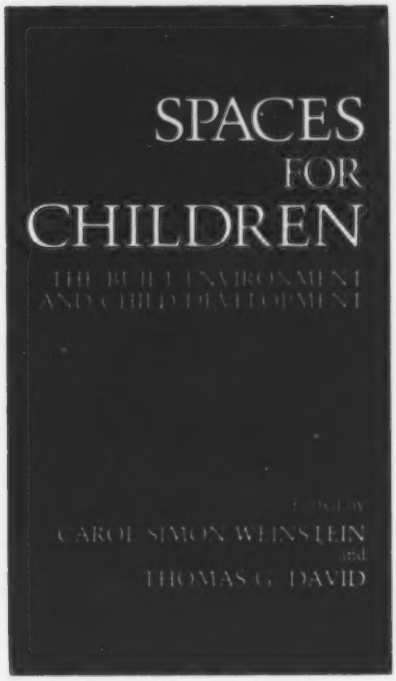
Henry Sanoff

Although research findings suggest a valid argument for the significance of the physical environment in supporting children's developmental

goals, there is very little evidence in the practice of this understanding. Similarly, there does not appear to be any significant indication that issues related to spatial planning or environmental design are included in the training of teachers of young children.

The purpose of this book is to present practical learning materials for students of early childhood education that will convey principles of good design necessary to allow the manipulation of the play environment to satisfy child development objectives. The intent is to show how the child's environment can support socio-emotional and cognitive development in the early years of life. The materials developed in this project will allow the reader to engage in the spatial manipulation of playroom learning centers, as well as to visualize the character of the centers. In addition, there are guidelines related to good furniture design, and the application of color and light to children's environments. Additionally, the imperative role of outdoor play space as an extension of the playroom is a method of improving the quality of the child's overall daily experience.

Materials pertaining to the spatial organization of the child care center will enable students/teachers to examine and compare different floor plan arrangements, as well as interpret the image conveyed by the building. These materials will show how *smallness* and *intimacy* can be achieved in large facilities. The intention is to demonstrate the value of good design of children's environments, and how spatial arrangement can be an effective teaching strategy. The residual effects of this awareness can influence the reader in the design implications of the everyday physical environment.



A developmentally appropriate environment, one with well trained and consistent staff in sufficient numbers, moderately sized groupings of children, and proper equipment and activities, will lead to good child development, (Whitebrook, Howes & Phillips, 1989). In all types of environments, working conditions affect services provided. Measures of quality child care have been discussed in several ways. Researchers have attempted to examine the *structural* aspects of child care, such as group composition and staff qualifications, *dynamic* aspects of child care that pertain to children's daily experiences, and the *contextual* aspects of child care, which are concerned with the type of setting and staff stability. The results of numerous assessments have shown that children in higher quality centers showed more advanced communication skills and verbal intelligence and more positive social behavior and task orientation (Phillips, Scarr & McCartney, 1989). It is apparent from the literature related to quality, that playroom quality, child care settings, and contextual features, are measures of social interaction, and not measures of the physical features of the environment. Consequently, there is a general lack of understanding of the role of the physical environment in contributing to quality child care.

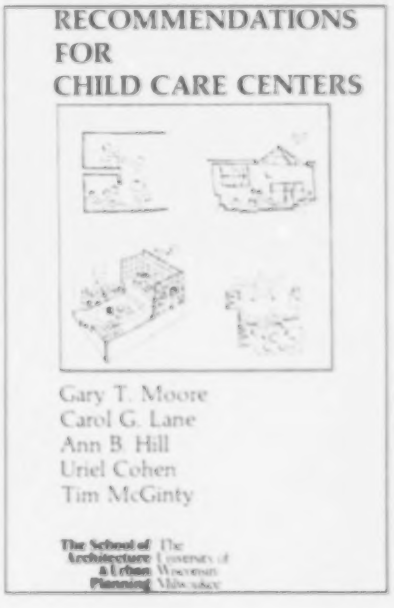
Needs assessment studies often yield conclusions far in excess of what is practical or feasible. Consequently, the most important planning decision for the child care center is to determine the appropriate number of children to be served. The research studies of Kritchevsky, Prescott, & Walling (1969) have shown that the developmental quality of child care services drops sharply with increases in the number of children served in one building. Prescott, et al. (1975) found that center size was a reliable predictor of program quality. In centers serving over 60 children, major emphasis tended to be placed on rules and routine guidance. Conversely, teacher emphasis on these concerns was found to be significantly lower in smaller centers. Prescott et al. (1975) and Gump (1978), also found that large centers rarely offered children the experience of participating in wide age-range groups. Mixing of ages

in smaller centers offered opportunities for older children to serve as models and to enrich overall play possibilities (Moore, Lane, Hill, Cohen, and McGinty, 1989).

The age groups generally served by most centers are infants (six weeks to twelve months), toddlers (twelve months to two years), and preschoolers (two to five years). In order to achieve the needed critical number in each age group, a target number of 60 to 75 children is recommended (Moore, et al., 1989) as a basic planning module. As the institutional needs increase, the number of children should then be increased in multiples of 60 to 75 administratively independent units, to keep the scale of the facility within the child's grasp.

In addition to the number of children in a center, an adequate amount of space for children's activities is necessary to insure a quality program that is developmentally oriented. In a commission study for the federal government, based on a review of cases of density and behavior in child-care settings, Prescott and David (1976) recommended a minimum of 42 square feet of usable floor space per child. Cohen, Moore, and McGinty (1978), in conducting interviews as part of their national research, suggested that 42 square feet per child permits a much more flexible program, allowing simultaneous options in active and quiet pursuits without children disturbing each other, in contrast to the average minimum requirement of 35 square feet stipulated in most states. A study by Rohe and Nuffer (1977) showed that while increasing spatial density by reducing space tended to increase aggressive behavior, sheltering activity areas by inserting partitions increased cooperative behavior. Their findings suggest that both densities and partitioning affected children's activity choices (Rohe & Nuffer, 1977). In a review of studies, it was concluded that the most desirable social environment occurs at a density of 42 to 50 square feet of usable activity space per child. These research findings provide the basis for facility size and playroom organization criteria.

Accompanying the area requirement for usable activity space for each child, is the need for well defined areas limited to one learning activity, with clear boundaries from circulation space and from other activity areas (Moore, 1986). Well-defined activity areas or learning centers may be created with surrounding partitions, storage cabinets, changes in floor levels and surface materials, or other visual elements that suggest boundaries. Areas that are well defined spatially, support social interaction, cooperative behavior, and exploratory behavior (Moore, 1986; Smith & Connolly, 1980). Well-defined areas also prevent ongoing play from being disrupted by intruders (Field, 1980). Quite often,



running and chasing activities are common in playrooms where boundaries are not well defined (Smith & Connolly, 1980). Well defined learning centers, conversely separated by clear boundaries from circulation space and from other activity areas, and with some visual or acoustic separation, decrease playroom interruptions and contribute to longer attention spans (Moore et al., 1989). This implies that those learning-centers within the classroom require a high degree of spatial definition. The design task, then, requires the preparation of a facility's program that can spatially respond to the developmental goals of young children as stated in the literature on early childhood.

Phyllis Crowley & Felix Drury

If the preschool environment has been appropriately designed, it will encourage a child to be perceptive and responsive to a greater degree and in many more ways. The spatial environment can help children learn by playing a vital role in developing imagination, building self-image and socialization. Children's experiences in space can relate to spatial concepts such as *direction, elevation, height, proportion, scale, light, color, texture, surface, boundary, edges, mass, and arrangement*.

Anita Olds

Unit 1 GOAL SETTING

The intent of this process is to provide an approach that stresses the inter-relatedness between children's developmental goals and the learning environment. This step-by-step process will also provide the tools necessary for making children's environments more responsive to their learning.

The recognition of children's developmental needs and learning processes are a prerequisite to the formulation of goals for a child development program. These goals are initially defined in terms of the essential areas of learning and growth. Goals can also be modified to enable the creation of a stimulating environment that encourages children's responses and that facilitate the development of their specific needs and capacities.

Corresponding to the general needs of young children, the basic goals of a child development center should:

- Bring competence in the physical-motor, socio-emotional, and intellectual skills
- Encourage creative expression and invention
- Nurture individuality in ways that contribute to feelings of worth and self-identity

Phyllis Crowley & Felix Drury

These goals need to correspond to the different developmental stages of children. Educational goals can enhance the development process and can contribute to program planning

DEFINITION OF GOALS

Goals are generalized statements about the overall purpose of the educational program. Goals initiate and generate developmentally appropriate activities and experiences that children can engage in and include the major areas of learning and growth. Setting goals provides a sound basis for planning, implementation and evaluation. Goal setting leads to positive action and creative problem solving.

The following goal statements are phrased in developmental terms to include factors in the learning environment that foster the goals.

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Physical-motor Development

To enable the child's small muscle development as well as to provide opportunities for large movement.

Phyllis Crowley & Felix Drury

The learning environment should provide for:

- Opportunities for indoor movement, especially in regions where the use of the outdoors is limited because of climate

- Equipment that children can adjust to accommodate their own level of skill as well as assess their own progress

Socio-emotional Development

To help the child develop controls for appropriate handling of drives and internalize impulse control and conflicts.

Phyllis Crowley & Felix Drury

The learning environment should provide for:

- Communicating a clear set of non-threatening controls, such as limits, rules and regulations that govern learning centers

- Creating a functional adult authority role which sets understandable limits, non-punitive sanctions, and alternative behavior patterns

- Fostering special adult child relationships and guidance in learning to cooperate and function in the learning centers

- Offering an abundance of learning materials in multiple pieces of the same items

To advance and develop the child's functioning knowledge of the community environment.

Anita Olds

The learning environment should provide for:

- Observation of the community environment through visits and demonstrations to enhance the learning centers
- Learning through books, demonstrations and imaginative play about work processes, people's roles, and functions
- Discussion of contemporary events which children hear discussed, such as war, demonstrations, and outer-space activities, through books, role play, and demonstrations
- Awareness of children's cultural orientations through their play mode

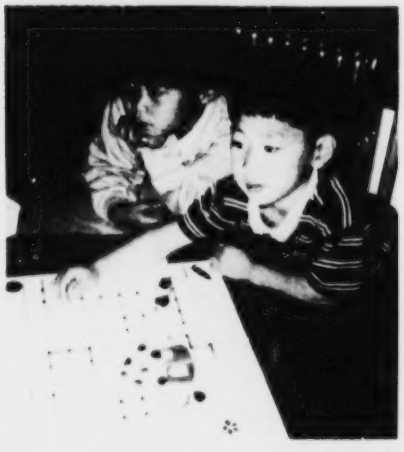
To provide a positive emotional climate in which the child learns self trust and to trust others.

The learning environment should provide for:

- Building informal communication channels, verbal and non-verbal, between teachers, children, families and the child development center
- Cooperative and collective child/group planning periods and joint work projects
- Creating supportive roles where the adult is a source of comfort, trouble-shooter, and has an investment in the child's learning throughout the learning centers

Intellectual Development

To promote the potential for ordering experiences through cognitive strategies.



Joan Sanoff

The learning environment should provide for:

- Developing and extending a variety of sensory-motor perceptual experiences in selected learning centers
- Extending models of symbolizing through gesture representation, two-dimensional representation, and three dimensional exercises in identified learning centers
- Developing facility with language through word meaning and usage, scope of vocabulary, meaningful verbal communication and expression and mastery of syntax in a variety of learning centers
- Developing a stimulating verbal-conceptual organization of experience through classification, ordering, patterning and transformational concepts in varied contexts and through selective play materials

To support the play mode of incorporating experience.

Joan Sanoff

The learning environment should provide for:

- Learning centers that nourish and set the stage for concrete learning by providing experiences, materials, and props
- Freedom to explore and experiment with reality in the representation of experiences in various modalities

Creative Expression

To help the child develop a fluent generation of novel responses.

The learning environment should provide for:

- Opportunities for pretend play well equipped with developmentally appropriate materials

- Materials with holding power— complex materials to allow children to manipulate, improvise and support sustained involvement

Individual Development

To facilitate the development of an image of one's self as a unique competent person.

The learning environment should provide for:

- An increasing knowledge of one's self worth through family ethnic membership, and increasing skill competency throughout the learning centers

- The opportunity to be personalized to reflect the identity and uniqueness of the children who use the space

- Constructive, manipulative activities with a variety of materials such as sand, clay and wood that promote self-expression

- Work surfaces adjacent to storage and low, open and well labeled shelving where children can select items independently and return them to the proper places

- The logical organization of items to enhance the child's understanding of space

Exercise: Develop a set of educational goals that will be enhanced by the learning environment.

Physical-motor Development

Socio-emotional Development

Intellectual Development

Creative Expression

Individual Development

Unit 2 WHAT IS A LEARNING CENTER

The physical arrangement of an early childhood learning environment determines what will happen. The arrangement of space and equipment in the environment is important because it effects the way children play together, the quality of the learning that takes place, and encourages active learning. Children require space in which to learn through their own actions, space in which they can move, build, sort, create, spread out, construct, experiment, pretend, work with friends, work by themselves and in small and large groups.

The physical arrangement of the environment conveys a message to the children, telling them what they may or may not do. The learning environment consists of physical elements such as equipment and furniture as well as surface texture, color, and materials, all of which are interacting together to communicate silent messages to the children. The learning environment should be organized so that it encourages children's activities and invites children to make independent choices. A clear and consistent playroom organization will allow children to locate materials they need and to determine which leaning centers are most appropriate for their particular activities. Their immediate knowledge of where things are in the learning environment provides children with a sense of security and control. Poorly organized playrooms, with ambiguous messages can result in disruptive behavior.

The learning center is the basic component of the learning environment. It is also referred to as a work area or an activity area. It is the place where children take the initiative to explore and experiment. The learning environment should include places for three to five children who are working together and places for the child who wishes to work independently.

DEFINITION OF A LEARNING CENTER

A learning center is an area in the playroom that contains a variety of materials and is identified by its physical boundaries. They are specific places where learning activities and experiences occur. Arranging the playrooms into learning centers will provide order and organization, limit chaos, and encourage children to pursue planned activities. The playroom should be organized in a way that children know how and when to use the learning centers.

Components of a Learning Center

The arrangement of a learning center is based on the types of children's activities that are generated and on the requirements of the activities, such as noisy or quiet, and wet or dry. Learning centers should contain three categories of stimulation.

1. Sensory stimulation should excite the senses. Learning centers should be colorful and contain visual material relevant to that area. Sensory stimulation is enhanced by creating diversity in the center through patterns, textures, object shapes and forms, where children have the opportunity to touch, to smell, to listen, and to taste a variety of materials.

2. Activity stimulation comes from arrangements that encourage children to participate in activities while defining the scope and limitations of their activities.

3. Cognitive stimulation refers to the teacher's utilization of the playroom to encourage children to work in centers with materials that are developmentally appropriate.

Phyllis Crowley & Felix Drury

Using a Learning Center

The child can select a learning center for pursuing a self-selected activity, for follow-up of a teacher-directed activity, or for an enrichment activity. The learning center can also be used by the teacher as a place for an individualized or small group activity.

Creating a Learning Center

Children's behavior (what children do) in learning centers can be described as activities. The center acts as a stimulus to generate the activities that occur. The life of the learning center is in the materials that help to encourage a variety of activities.

Given freedom to learn and the innate inquisitiveness and fascination with the world they possess, children learn for and by themselves or with each other's help through the materials in the learning center. A child can choose his or her activities and build confidence by doing so. The learning center can be created by the child or by the teacher.

The teacher's role in creating the learning center is to prepare all materials and collect available resources so that it contains all that is necessary for children to learn and to discover. Manipulative and multi-media materials help to encourage exploration and discovery. Children should be aware of what can be done in the center and where materials are stored. Children will use the center when there are new activities continuously added to the center, and when they can create their own activities.

Planning children's activities and experiences in the learning center begins by stating *learning objectives*. These are statements that describe the desired characteristics to be achieved by each child. Specific objectives influence which learning centers can and should be included in the playroom. They also allow for the organization of the playroom into appropriately located learning centers. Learning objectives can be satisfied by a variety of children's activities. The criteria for selecting learning objectives are based on the relevant experiences that different age groups require.

Phyllis Crowley & Felix Drury

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The process for creating a learning center begins by:

- Stating learning objectives for specific age groups
- Identifying which learning centers can accommodate those objectives
- Developing a variety of learning activities that are appropriate for each center
- Preparing the materials necessary for each activity. Structuring relevant learning experiences requires a planning process to create a nurturing playroom environment

Planning Learning Centers

Planning is necessary in order to use the playroom and the learning centers within to encourage children to work at their own rate and level in a center of their own choosing. Planning the playroom can help to provide the experiences in a child's preferred sensory mode of learning such as touch, sight, hearing, smell, taste, or movement. The organization of the playroom can encourage children to participate in learning activities while aiding them in defining their scope and limitations. Planning can also provide options to a child for pursuing a particular interest in a manner best suited to learning.

Playroom planning aims at organizing an environment that is uncluttered, attractive, functional, and flexible. There are many imaginative ways to arrange playroom space. Whenever possible, learning centers should be located around the perimeter of the playroom, with a central space for circulation and large group activities.

Traffic patterns are a major consideration and should encourage natural movement from one learning center to another with minimal supervision and without disruption to ongoing activities. This spontaneity stimulates a child's curiosity and promotes self-reliance.

Noise control is another factor to consider when planning the playroom. The location of a learning center is important to minimize distractions. Therefore, more robust activities should be located away from quieter centers.

Exercise: List the activities in your playroom that are:

NOISY	QUIET
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Connect those activities that have the greatest frequency of movement between them.

Questions to evaluate your solutions.

- Are the quiet learning centers adjacent to each other?
- Is there excessive movement between centers?
- Does the organization of the playroom allow children to be involved without imposing on the rights of other children?
- Do traffic patterns allow for easy flow from one center to another?

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Learning Objectives

Once the children's developmental goals have been identified, it is necessary to organize those general statements into specific learning objectives.

Learning objectives are statements that describe the desired characteristics to be achieved by each child. These statements provide the stimulus for planning children's activities and experiences.

Using the example described in the Goal Setting section, a number of learning objectives and activities can be generated to satisfy each goal.

Example: **Socio-emotional Development**

Goal: *To advance and develop the child's functioning knowledge of the community environment*

The following learning objectives were generated:

positive self-image
language development
role enactment

Now, develop a set of learning objectives appropriate to your goals.

Goal:_____
Learning objective:_____
_____

Goal:_____
Learning objective:_____
_____

Goal:_____
Learning objective:_____
_____

Goal:_____
Learning objective:_____
_____

Descriptions of Learning Centers

By creating a variety of spaces within the playroom, each of which supports a different function, noisy and quiet, messy and clean, expansive and contained activities are kept apart. Clearly defined areas are important for developing activities to their fullest, encouraging dispersion throughout the playroom, providing for clear and consistent use of materials, and increasing the child's sense of independence.

Learning centers have been referred to by a variety of terms in different programs and in different parts of the country. They are called activity areas, zones, corners, stations, or play units. Learning centers describe the physical arrangement of the playroom that may contain different but compatible activities.

Descriptive information about learning centers follows. Each description includes the major learning objectives that can be achieved in the center. Certain objectives are achieved in several different learning centers while other objectives may only be satisfied by one or two centers.

Learning centers have five defined attributes according to Anita Olds(1989). The first is a physical *location* where areas of the playroom can be zoned in order to separate conflicting activities. Visible boundaries indicate where the learning center begins and ends. *Boundaries* help reduce disruptive behaviors caused by activity congestion or poor physical separation of activities. Within the boundaries are *play and sitting surfaces*. The choice of surfaces should be influenced by children's movements. Young children rarely choose to sit and more rarely sit still. By minimizing the number of tables, space variety and safety are increased.

The *display of play materials and storage space* within the center communicates to children what is available, where it is to be used, and where it belongs. Finally, the *mood* or character of the learning center should match the level of activity and energy children expend in performing it. Learning centers should vary in mood as they vary in size, function, and layout. Children should experience spaces that are rich and varied, each having its own unique atmosphere.

Art

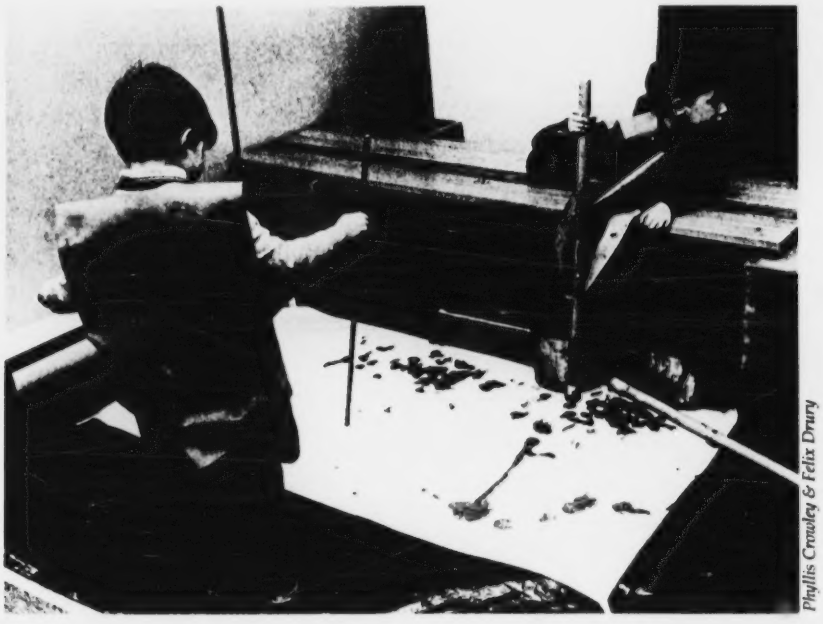
The art work of children is a visual expression of their feelings. In order to express these feelings visually, children must think about themselves, and their physical and social environment. The feelings they choose to express can result from direct involvement in home or school activities or from vicarious experiences in listening to stories and reading. With paint, crayons, markers, playdough, paste, paper, scissors, boxes and string children can represent things they've done, seen and imagined. Their main interest is in the process of experimentation rather than in the product.

LEARNING OBJECTIVES:

- *intellectual development*
- *positive self-image*
- *self-expression*
- *communication*
- *problem-solving*
- *exploration*
- *experimentation*

REQUIREMENTS

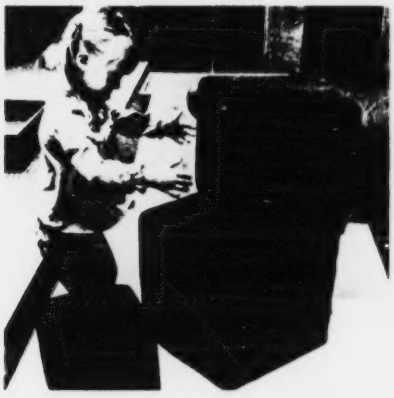
The art center should contain materials that are available for immediate use and located near tables or easels where they will be used. Art materials should be easily selected and returned by children. An art center requires ample work surfaces- a smooth floor, a low large table, counter tops, as well as space for hanging smocks, drying paintings, storing projects in progress, and hanging and displaying completed ones.



Phyllis Crowley & Felix Drury

Block Play

Block play is an area where building structures from blocks allow children to express themselves. Children use their structures in a realistic and imaginative manner. When children explore their ideas structurally, they observe physical principles and form concepts of size, weight, shape, and fit. In the process of using blocks to build structures, children deal with the spatial and structural problems of balance and enclosure. Moreover, they must use their newly formed concepts in making decisions about what to build and how to proceed in building. Block play enables children to learn how to work and cooperate with their peers and achieve the following learning objectives.

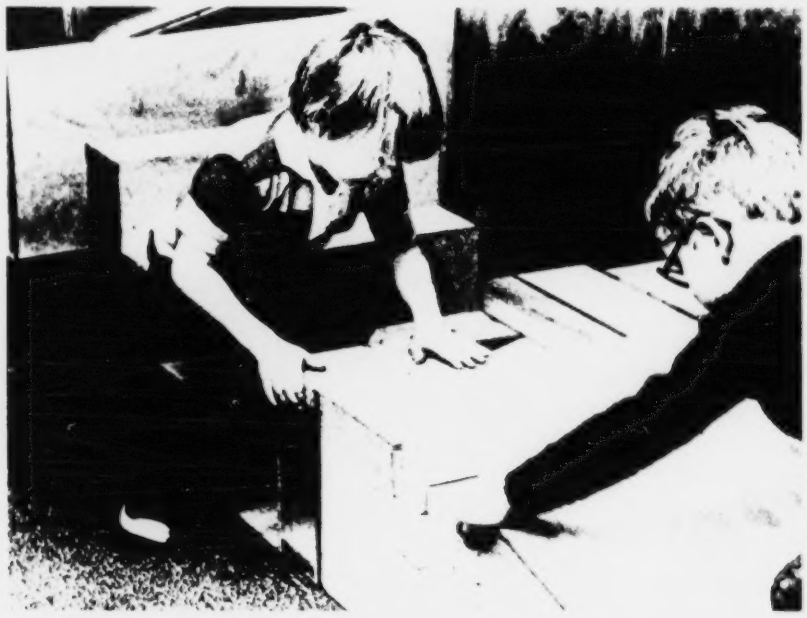


Learning Objectives

- *concept formation*
- *cooperation*
- *eye/hand coordination*
- *large/small motor development*
- *positive self-concept*
- *problem-solving*
- *self-expression*
- *perceptual motor development*

Requirements

The block building center should contain sufficient area for children to build undisturbed. Blocks should be organized in order on shelves, and should be in sufficient quantity for several children to build large structures. Since role-play and block play often support and compliment each other, they should be located in close proximity.



Phyllis Crowley & Felix Drury

Construction

Children obtain satisfaction from using tools and wood in a construction center. They begin to develop skills in planning by defining the steps needed to reach a finished product. The hammering, sawing, and drilling allow children to release energy and hostility constructively. Just as important to children is the development of confidence in improving tool handling skills and pride in the objects they create. Close supervision and precise limits must be maintained.

Learning Objectives

- *eye/hand coordination*
- *large/small motor development*
- *problem-solving*
- *self-confidence*
- *positive self-concept*
- *perceptual motor development*

Requirements

Provide enough woodworking equipment, wood scraps and nails to accommodate up to four children for pounding and sawing. The construction center should be located away from major traffic and include a place for tool and wood storage.

Anita Olds

Cooking

Cooking is an activity that not only gives children satisfaction and a sense of responsibility, but is also important for learning. This is a real activity, not a simulated one. Science observations and experiments can be carried on through almost any cooking activity. Learning math is promoted through weighing and measuring, and symbolization is strengthened through the use of recipe charts.

LEARNING OBJECTIVES

- *eye/hand coordination*
- *experimentation*
- *oral language development*
- *problem-solving*
- *recognition of symbols*

REQUIREMENTS

The cooking center should include the use of real facilities and utensils and allow for a variety of food preparations.

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Dramatic Play

Fascinated by the experiences of everyday life, children enjoy interpreting these experiences and reenacting them. They learn what it is like to be a mother, father, police officer, and what their peers feel about people in such roles. The importance of dramatic play lies in children's development in understanding themselves and others and in their gaining confidence that they can be whatever they wish to be. They begin to achieve the following learning objectives:

Learning Objectives

- *experimentation*
- *oral language*
- *positive self-image*
- *role play/fantisizing*
- *self-expression*
- *social development*

Requirements

The dramatic play center should include equipment, furniture, and accessories such as men and women's-dress-up clothes, arranged where children can see them. The center should also contain a full-length mirror, dolls of different skin colors, and language props, such as telephones.

Anita Olds

Listening

Spoken language is the basis of communication among people. Dependent upon it is practically all childhood socialization and subsequent education. The classroom environment must reinforce the listening and speaking abilities children have learned from their home environment and strengthen these abilities and direct them toward further development. A listening center helps to broaden children's experiences with sounds and spoken words and provides opportunities for the following learning objectives:

Learning Objectives

- *articulation skills*
- *auditory discrimination*
- *concept formation*
- *oral language development*
- *self-expression*
- *vocabulary development*

Requirements

Equipment that promotes listening/speaking: tape/tape recorders, two-way listening/speaking.

George Zimbel

Indoor Active

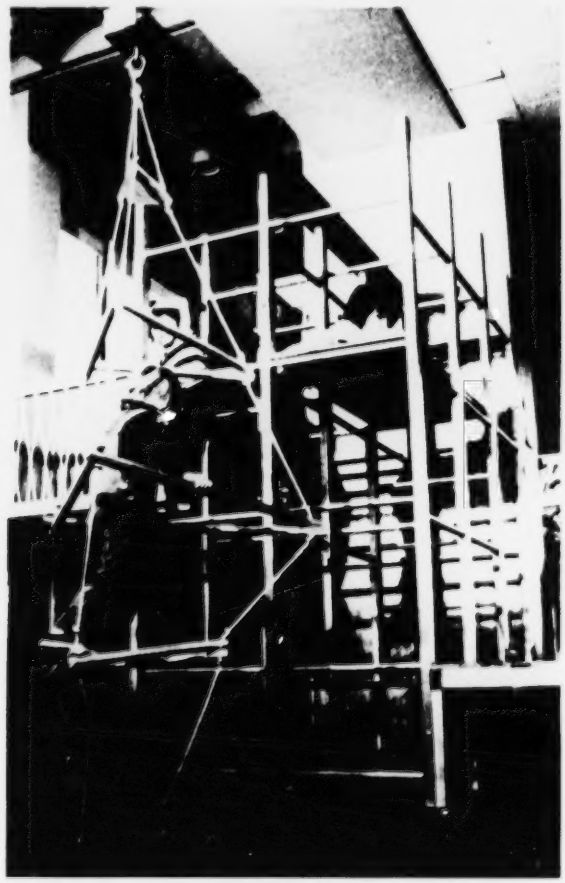
Young children develop a concept about themselves when they are able to move their whole body through space confidently. Body movement also lays the foundation for the development of concepts. An indoor active center can provide children with a variety of activities for the development of fundamental motor patterns and large muscle development. Climbing, balancing, skipping, hopping and jumping are several types of play that can occur in this center.

Learning Objectives

- *eye/hand coordination*
- *large/small motor development*
- *positive self-image*

Requirements

Large motor activities and equipment promotes climbing, balancing and large movements. They should be located in an area where children can use them freely and safely, away from quiet activites.



Anita Olds

Manipulative Play

Manipulative skill is the development of small muscles and the ability to use one's hands and eyes with dexterity. It is important for young children to develop such skill so that they may later learn to read without difficulty. Puzzles, pegboards, and construction sets encourage children to learn both about their physical manipulations, and about the relationships resulting from these actions.

Learning Objectives

- *concept formation*
- *eye/hand coordination*
- *perceptual motor development*
- *small muscle development*

Requirements

The manipulative center should contain materials of varying complexity that are sufficient for several children. Materials should be located for easy selection and return by children.

Henry Sinoff

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Math

The math center involves building upon children's present understanding as they explore abstract concepts. This center provides children with books and materials to reinforce their understanding and develop the ability to ask open-ended questions and develop relationships. Relationships are necessary to classify, order and measure space/ time.

Learning Objectives

- *analyzing*
- *classification*
- *concept formation*
- *kinesthetic development*
- *measurement*
- *ordering*
- *patterning*
- *problem-solving*
- *visual discrimination*

Requirements

This center should contain materials for exploring, solving problems and making discoveries. Materials should also be available for sorting and counting.

Music and Movement

Activites in the music and movement center allow children to experiment with and enjoy rhythmic and musical skills. The basic elements of music are sound and sound-making. Making music and responding to it can enhance and integrate all areas of development. Singing is an important aid to the growth of language and can be used to introduce and reinforce concepts. Songs, using instruments and exploratory movement activities teach children to understand themselves, to be aware of their social environment and to value cultural diversity.

Learning Objectives

- *auditory discrimination*
- *concept formation*
- *cultural diversity*
- *oral language development*
- *motor development*
- *perceptual awareness*
- *positive self-image*
- *self-expression*
- *sensory development*
- *social development*

Requirements

The center should be arranged with music equipment and activities to include sound and rhythm producing materials; include body movements and songs with children. The center requires floor space for playing and moving and storage for instruments.

Jo Jackson

Reading/Pre-writing

If a preschool child is to meet with later success in learning and enjoying reading, then becoming aquainted with books should occur as early as possible. At this age, children are involved with learning a language and are fascinated with words and sounds. Language is the externalization of thoughts, and words symbolize concepts. Words, as language symbols then become a medium for the exchange of thoughts. This center should provide opportunities and encouragement for reading and dictating experiences.

Learning Objectives

- *auditory discrimination*
- *concept formation*
- *oral language development*
- *perceptual motor development*
- *symbol recognition*

Requirements

The reading center should be a comfortable place organized to include books arranged at children's level, and located away from noisy activities. The center should contain multi-ethnic books appropriate for preschoolers and a typewriter or word processor for writing/dictating experiences.

Anita Olds

Sand/Water Play

Flexibility in form and function is a primary characteristic of sand and water. Because of this flexibility, it offers children many possibilities for experimentation. Playing with various objects in sand and water and measuring, introduce children to concepts of quantity, floating, and sinking. Through mixing, stirring, filling, pouring and molding, children experiment and find out about textures and quantities. Just as important is the pleasure children have in stimulating their senses and feelings.

Learning Objectives

- *concept formation*
- *experimentation*
- *eye/hand coordination*
- *exploration*
- *sensory development*
- *small motor development*

Requirements

The sand and water center should be arranged with enough accessories for several children to play at once. It should be near a source of water and arranged for easy cleanup. The sand and water area usually centers around a large, wheeled sand and water table built of wood and lined with metal or plastic.

Anita Olds

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Science

The preschool child is a born scientist. They are equipped with an imagination and curiosity to touch, see, hear, smell, and taste. A science center integrates natural and inanimate objects into the world of children and nurtures their curiosity and understanding of the environment and the inter- relationships within it. Displays of plants, animals, and scientific measuring equipment encourages exploration and discovery which is enhanced by relevant reading material.

Learning Objectives

- *concept formation*
- *experimentation*
- *language development*
- *observation*
- *prediction*
- *problem-solving*
- *sensory development*

Requirements

The science center should contain children's displays or collections, plants, animals, fish, and appropriate books. Surfaces for conducting experiments and display and storage for scientific materials should be available.

Paul Conklin

A Rating Scale for Learning Centers

Research in early childhood education has adequately demonstrated that learning through play is stimulated and enhanced by the creation of well organized, visually stimulating learning centers. Learning centers, through the arrangement of furniture and storage components, the articulation of surfaces, the use of color and lighting, and the location with respect to other centers, are intended to respond to learning objectives of the activity they facilitate.

This exercise presents a simple rating scale to be used for the assessment of an existing playroom for the quality of its learning centers. Through the use of this rating scale, it is possible to improve those learning centers that do not adequately satisfy their intended objectives.

Procedure:

1. Within a preschool playroom, identify and assess the learning centers that are present.

2. Observe the components of each learning center, and rate it as being *minimal* (M), *fair* (F), *or good* (G), related to the qualities listed below. In assessing a *good* center it is assumed that the qualities of a *fair* learning center are included and hence that description is not repeated.

3. Following observation of all centers, enter your rating on the graph to obtain a profile of the playroom and its learning centers.

You may copy the unfilled observation sheet to evaluate more than one playroom, and to compare the quality of their learning centers.

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Art

- ☐ **M**:Low tables accomodating 3-5 children, secluded from circulation paths.
- ☐ **F**: Minimal, plus individual easels and low tables, for solitary and group work, storage for art materials accessible to children; drying and display area; floor easily cleanable.
- ☐ **G**: Fair, plus individual and group work surfaces visible, impervious and washable; natural lighting; materials and drying and display area accessible to children; sink present.

Block Play

- ☐ **M**: Floor space for individual and group block building.
- ☐ **F**: Minimal, plus block play areas defined through storage units for individual and group play; storage areas for blocks and props accessible and clearly identified for choice and clearing up.
- ☐ **G**: Fair, plus well defined play area with level changes in floor and table surfaces to engage imaginative building; located close to dramatic play for interactive role-playing.

Construction

- ☐ **M**: Work area located away from major traffic area, with adequate storage for scrap materials and equipment.
- ☐ **F**: Minimal, plus work area with low surfaces secluded from quiet areas to include work space for a maximum of 4 children and an adult; materials accessible to children; supervision.
- ☐ **G**: Fair, plus display and storage define work surfaces that are visually connected to adult area for unobtrusive supervision; tools visible to children; materials displayed and accessible;

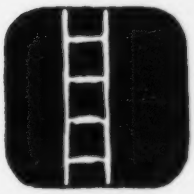
Cooking

- ☐ **M**: Small group activity space with equipment and surface for cooking experiments.
- ☐ **F**: Minimal, plus equipment and tools accessible to children, work surfaces and floor waterproof and easily cleanable; adult supervision.
- ☐ **G**:Fair, plus adequate surfaces, storage and equipment for small group interaction; sink for washing and waste disposal; ventilation over cooking area; visual access to other areas, proximity to dramatic play.

Dramatic Play

- ☐ **M**: Space adequate for small group play, with props accessible to children.
- ☐ **F**: Minimal, plus space defined by play equipment, props and storage units; ceiling that allow hanging props; area separated from quiet zones, noise reduced through absorptive floor covering.
- ☐ **G**: Fair, plus stimulation offered by the environment through movable props, materials and play furniture; changes in floor level and ceiling heights, mobiles; windows and views to the outdoors.

Indoor Active

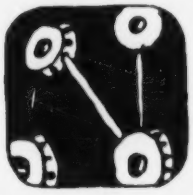


- ☐ **M**: Equipment for motor development separated from circulation paths, and with acoustical separation from quiet areas.
- ☐ **F**: Minimal, plus play equipment with various levels of complexity related to competence, and offering challenge; noise reductive, soft floor covering.
- ☐ **G**: Fair, plus play equipment with fixed and modular components for diverse arrangements and complexity, maneuverable by children; area visible by adult.

Listening

- ☐ **M**: Private nooks defined for individual listening, separated from circulation paths.
- ☐ **F**: Minimal, plus listening cubicles free of external distraction visible from exterior; equipment accessible to children.
- ☐ **G**: Fair, plus individual cubicles and group space with adult supervision possible; views to outside; vertical display spaces; comfortable floor for lounging; adequate and accessible storage.

Manipulative Play



- ☐ **M**: Private quiet areas for individual play within this center.
- ☐ **F**: Minimal, plus small group interactive areas and individual spaces; storage and display of materials accessible to children.
- ☐ **G**: Fair, plus private nooks free of distraction for independent exploration with unobtrusive adult supervision; floor surfaces comfortable for play; movable furniture; high level of lighting.

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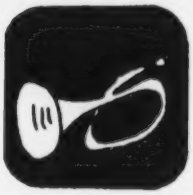
Math

- ☐ **M**: Individual nooks for quiet exploration.
- ☐ **F**: Minimal, plus work places with visual connection to adjacent centers; comfortable furniture, accessible storage.
- ☐ **G**: Fair, plus external visual and sound distractions reduced; ample writing surfaces and display space; proximity to science area desirable; work surfaces and storage accessible to children.

Music and Movement



- ☐ **M**: Large group space located away from quiet zones.
- ☐ **F**: Minimal, plus adequate space for large group activity, free movement and dancing, sound absorptive wall and floor surfaces.
- ☐ **G**: Fair, plus group space created by display and storage of instruments and materials that create sound upon experimentation; storage and display for instruments accessible to children.

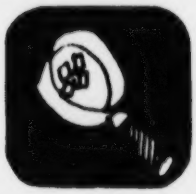
Reading/Pre-writing

- ☐ **M**: Space secluded, with books and listening devices arranged within children's reach.
- ☐ **F**: Minimal, plus spaces for private and group reading, with soft horizontal areas for reading, secluded from noisy activity areas, but visible from other learning centers.
- ☐ **G**: Fair, plus reading nooks defined; changes in surface levels, with movable, comfortable furniture for reading, writing, word processing and accessible book displays; natural lighting and views to outdoors.

Sand/Water

- ☐ **M**: Group activity space with work table for sand/water play, with easy-to-clean floor.
- ☐ **F**: Minimal, plus play table with adequate space for movement all around; sink area, accessible storage and display for play accessories; visual connection to adjacent centers.
- ☐ **G**: Fair, plus play area close to water source; proximal to science area; waterproof and slip proof surfaces; natural lighting; access to protected outdoor area.

Science



- ☐ **M**: Low work tables with equipment easily accesible for experimentation arranged away from circulation paths.
- ☐ **F**: Minimal, plus quiet group and individual work areas, with sink and accessible and lockable storage areas; natural lighting.
- ☐ **G**: Fair, plus areas of work surfaces, equipment storage and display interconnected and accessible, sink present; views and access to outdoors.

	Art	Block Play	Construction	Cooking	Dramatic Play	Indoor Active	Listening	Manipulative Play	Math	Music & Movement	Reading/Pre-writing	Sand/Water	Science
Minimal													
Fair													
Good													

Obtain a profile of the playroom by plotting the assessment on the graph above.

Unit 3 PLAYROOM DESIGN PRINCIPLES

By design, the preschool environment can encourage children to refrain from inappropriate behavior. Circulation paths that are meandering rather than straight will discourage children from running. This is further enhanced by subdividing the playroom with furniture, partitions and varying floor levels. Avoiding large open spaces will decrease aggressive behavior and minimize children's excessive motion.

It is easier for children to sit attentively during group meetings if the teacher is at a different level and if physical indicators on the floor such as tape or carpet squares are used to specify seating positions and locations. Children enjoy working on very low surfaces, and the floor. This is illustrated in a study where children removed all materials, equipment and furniture from their playroom and were then allowed to bring back whatever they wanted. Almost everything was returned, except the tables that remained in the hall. The children preferred to use the floor for creative projects and snacks.

Children's need for privacy in the preschool environment has received very little attention. Children seek to maintain a balance of social interaction and restriction of interaction. If children's desired level of privacy is greater than the privacy they are able to achieve, they will use any number of mechanisms to avoid the resulting feelings of crowding. A study of children's territories that consisted of short interviews about the location of special places in the preschool environment revealed the expected nap areas and cubbies, to the unexpected hideaways underneath equipment. Outdoor play areas and equipment were also chosen as special places. Places to be alone are particularly important for children who are less popular and more aggressive. Retreat spaces are useful to allow an over-stimulated, tired or upset child to be alone or to enjoy a quiet moment. Private spaces need not be entirely enclosed to seem private. It is desirable to provide a sense of physical privacy yet allow the child visual access to the playroom. A sandbox allows an upset child to engage in solitary play with non-threatening materials. They provide a good substitute for hostility and they can be used to build an enclosure for retreat.

Children often perceive their school as belonging to their teacher. If the privacy potential of playroom settings is limited, or if young children believe that the building, outdoor play area, and all objects contained therein belong to the teacher, it

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would not be surprising to find that some children may not mark any particular spot as their own. The absence of a primary territory may well yield, in the long run, a lack of self-esteem and self-identity.

The appropriate design of the preschool environment can encourage children to be more perceptive and responsive. The environment can be evolving to be made to fit the child or where the child can remake it to fit herself. Children learn spatially by becoming aware of themselves in relation to other things and people nearby, by seeing themselves in their environment, and by attempting to change that environment.

Children are getting information from space and reacting to it by sensing their own position, selecting a direction, judging a distance and sequencing their actions. The way that an environment is arranged, its surfaces, textures, edges and light convey information to the child that influence decisions related to the appropriate behavior for the spatial setting. Space is defined as the relationship of distance, direction and time to the boundaries of objects, people or places. Every child must learn to recognize boundaries, to move toward and through them in a useful sequence.

There are many ways to describe a child's spatial experiences. Playrooms can be used to represent natural spatial conditions such as near and far, high and low, horizontal and vertical, etc. The following list describes environmental characteristics:

arrangement
boundary
color
direction
edges
height
light
mass
scale
size/proportion
surface
texture

The environmental characteristics can be linked to simple actions such as *acting, connecting, listening, moving, pointing, pacing, resting, sequencing, touching and watching*. These linkages provide an interweaving between the child and her environment.

Light and Color in the Playroom

The child's learning environment is energized through light. Sunlight provides a form of light necessary for our body systems to operate. Artificial light does not provide our perceptual systems with all the forms of light that the body requires. Therefore, a preschool playroom should have a large proportion of daylight. It is desirable to have daylight enter a room from more than one direction to avoid high contrasts in light conditions. Windows are only one source of admitting light. Skylights, or daylight entering the room from above can provide an inexpensive and desirable source of general illumination. Often fluorescent lighting, which is the least expensive form of artificial lighting, is commonly used to provide uniform lighting. This type of lighting greatly reduces shadows and shading, thus minimizing contrasts of light and dark, factors that affect children's visual perception. While it is important to achieve a reasonable balance of light throughout the playroom, it is equally important not to create uniform light throughout the room. High contrast, on the other hand, should be avoided because it makes the eyes work too hard to identify and complete fine tasks. Every preschool playroom should have a range of lighter and darker places and directional light sources that cause shading and shadows.

Since many classrooms, have windows on only one side, the use of translucent curtains can help to diffuse the light and direct it farther into the room. Walls opposite windows should be light to reflect the light that reaches them. Windows are as important for the playroom for what children see out of them as for the light coming in. Whatever the view, the space outside allows children to project their imagination into a larger space.

Often, children find themselves in rooms with high window sills which block the view. Sills should be below the chin level of the seated child. When there is no choice but to use a room with high window sills, platforms should be constructed near the windows so children have easy access to the view.

Colors of surfaces, such as floor, walls and ceiling contribute to the mood of the playroom and the ability of children to understand its organization. The color of children's furniture, storage units and other objects contribute equally to the overall ambient feeling of the playroom. Too often, the choice of colors is based on maintenance and wear, or the desire for intense primary hues that proport to stimulate young children. These beliefs do not allow for the consideration of color as an important element to contribute to perceptual development.

Large areas of bright intensely hued colors, which are presumed to make a room cheerful, often appear to the viewer to advance or recede.The movement of these colors causes a physical change in the shape of the eye and unnecessary visual consequences.

Natural colors are useful background colors for classrooms and for very fine tasks where eyes and fingers need to be closely coordinated.

Creating a Playroom Environment

This process will permit you to create a playroom environment that meets the developmental needs of children. The child's playroom will be spatially organized using the concept of learning centers.

The basic steps in this process include:

- Identifying learning objectives (***what*** you want children to be able to do)

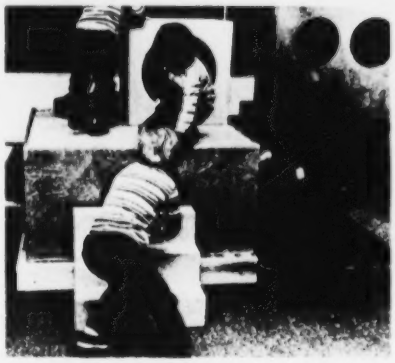
- Determining in which learning centers will the learning objectives occur (***where***)

- ***How*** the learning centers are arranged in the playroom

The process can begin with a wish poem which can be a group or collaborative poem. It is a group of statements composed of responses to the phrase, *"I wish....."* This approach is used in order to minimize the effort usually expended in finding rhymes, an effort which usually stops the free flow of personal feelings and associations.

The results of the poem may point to a wide range of concerns that can provide an important stimulus for change. What we want for our children is the purpose of this poem, so complete as many statements as you can beginning with *"I wish for the children to develop..."*

This is a useful step to encourage the flow of ideas that lead to defining learning objectives.



Phyllis Crowley & Felix Drury

I wish for the children to develop _____

_____

_____

I wish for the children to develop _____

_____

_____

I wish for the children to develop _____

_____

_____

I wish for the children to develop _____

_____

_____

I wish for the children to develop _____

_____

_____

A series of learning objectives are listed on the right whose fulfillment will have a direct impact on the organization of the playroom. From the list select the three most important statements by placing a check mark adjacent to your choice.

This activity is best conducted by groups of between three and five people, where individual choices are made, defended, and where collective decisions are made as they pertain to specific age groups. The group decision making process allows participants to learn from each and strive to seek consensus as relevant options are explored.

LEARNING OBJECTIVES

__To develop a positive self-image
__To develop problem solving skills
__To develop sensory awareness
__To develop self-expression
__To develop eye/hand coordination
__To develop large/small muscles
__To develop oral language
__To develop communication skills
__To develop a sense of confidence
__To develop social skills
__To develop self-control
__To develop self-motivation
__To develop thinking ability
__To develop persistence toward a goal
__To develop a sense of responsibilty

For each of the agreed upon objectives, three learning centers should be selected, from the list on the right, for each objective.

LEARNING CENTERS

__Art
__Block play
__Construction
__Cooking
__Dramatic play
__Indoor active
__Listening
__Manipulative
__Math
__Music & Movement
__Reading/Pre-writing
__Sand/Water
__Science

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The final three objectives and corresponding learning centers should be recorded below:

Objective 1_____

_____

Learning Center **a.**_____
Learning Center **b.**_____
Learning Center **c.**_____

Objective 2_____

_____

Learning Center **a.**_____
Learning Center **b.**_____
Learning Center **c.**_____

Objective 3_____

_____

Learning Center **a.**_____
Learning Center **b.**_____
Learning Center **c.**_____

Thus far, the choice of appropriate learning centers is as a result of clearly stated learning objectives. The next step is to decide how the learning centers go together. Using the graphic symbols corresponding to each learning center, select the six (6) most important to plan your playroom.

Henry Sanoff

The following physical factors will help to determine how to arrange the learning centers and which are to be adjacent to each other:

traffic patterns
noise control
physical barriers
shared resources
supervision

The grid represents the playroom floor area, where the bold black lines represent the exterior walls. Based on the five factors above, locate the graphic symbols on a vacant square allowing for circulation to learning centers to occur. Circulation space can be represented by leaving a square, or a half square empty. *(Note: Photocopy page 48 and page 49. Use the copies for this exercise)*

Henry Sanoff

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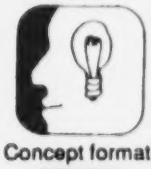
Group activities

Locker

Cooking

Eating

Observation


Concept formation

Construction

Entry/reception

Dramatic play

Kitchen

Manipulative

Visual aids

Resting

Reading

Science/nature

Blocks

Listening

Water play

Music

Changing clothes

Washing

Indoor active

Sand

Health

Math

Entry/reception

Laundry

Protected Outdoor

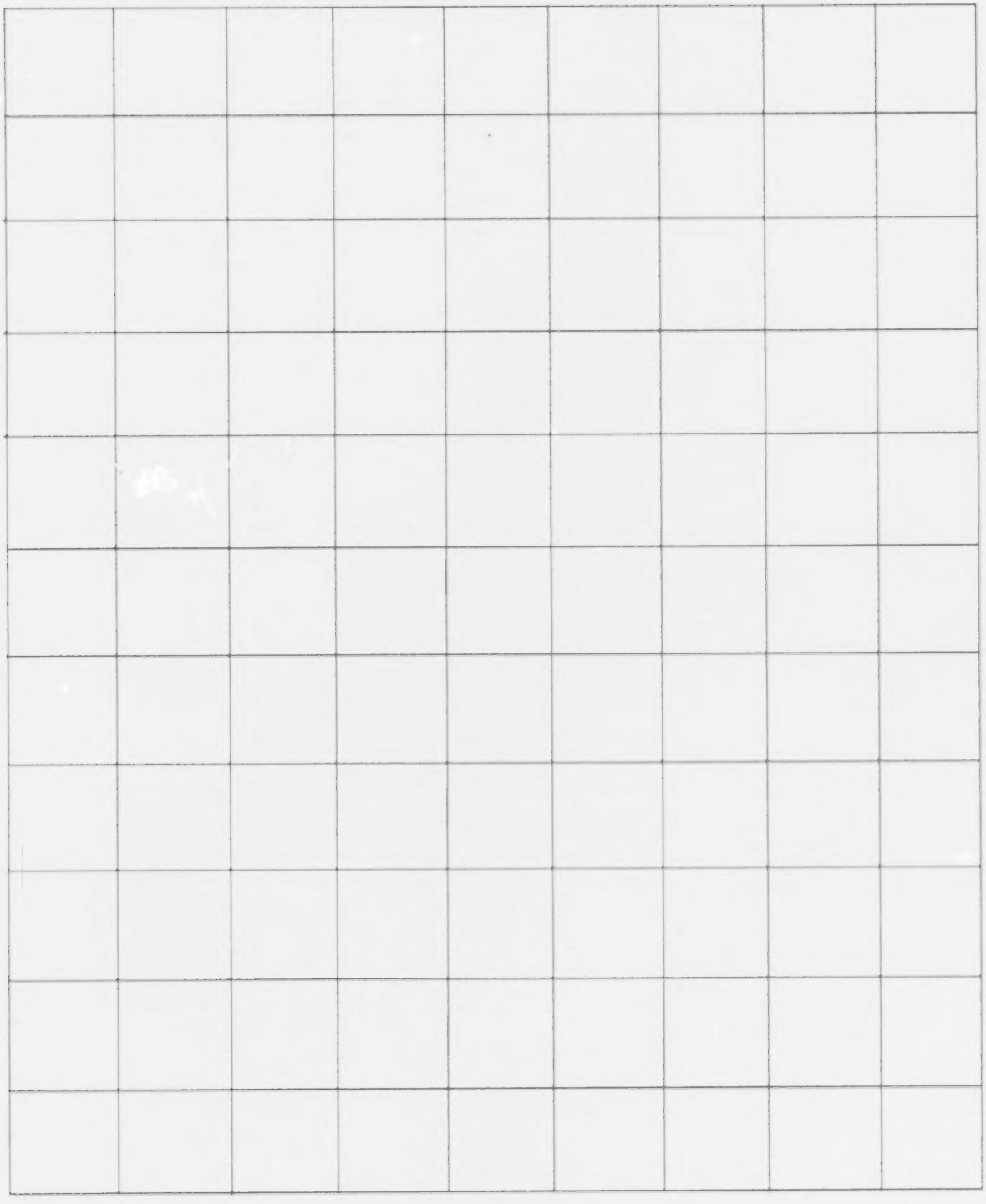
Toilet

Art

Cubby/locker

Parent

Spatial Layout Grid



Planning the Playroom

The shape and proportion of a playroom are important factors to be considered when planning and organizing the learning centers. Playrooms with very irregular shapes might present difficult layout problems. However, there are particular playroom proportions that allow for efficient planning of learning centers.

There are several proposed playroom shapes that represent the range of possibilities, though one can find many variations of these types. Each playroom contains the same floor area suitable for twenty-four pre-school aged children. The floor grid of each layout is divided into squares of 8ft. x 8ft. One square would approximate a typical learning center that would be suitable for four children and one adult.

- First, place an (x) in the best location for the entrance of the playroom, considering circulation and surveillance. Similarly, place an (x) at the exit to the outdoor play area.

- Next, from the following list of learning centers, select five or six of the most appropriate and locate them in each playroom plan. Include a large group area in each of your choices. This area, which will require 4 squares, can also be used for circulation. When arranging the learning centers, consider space for circulation and movement between learning centers. Use a pencil to outline each learning center.

Henry Sanoff

During this process you may need to modify your original decision for the location of the entrance to the playroom.

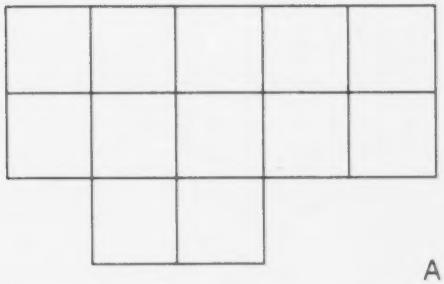
__*Art*
__*Block play*
__*Cooking*
__*Construction*
__*Dramatic play*
__*Indoor active*
__*Listening*
__*Large group*
__*Manipulative*
__*Math*
__*Music & Movement*
__*Reading/Pre-writing*
__*Sand/Water*
__*Science*

Finally, select the best shape for planning a flexible playroom by placing a check mark alongside the appropriate letter.

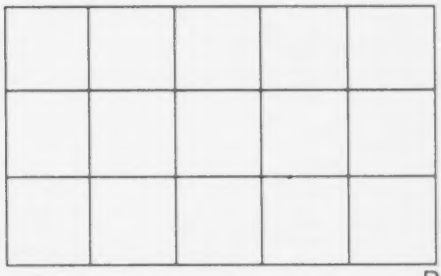
__**A** __**B** __**C** __**D**

Please explain the reasons for your choice._____
_____
_____
_____
_____
_____

Discuss your decisions with other members of your group and try to achieve consensus about your decision.



A



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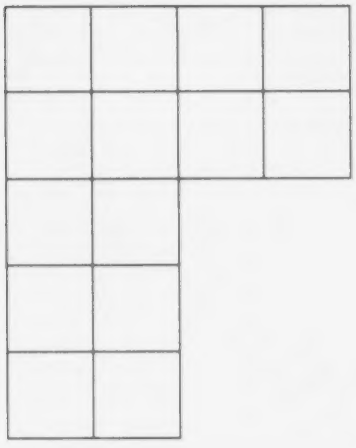
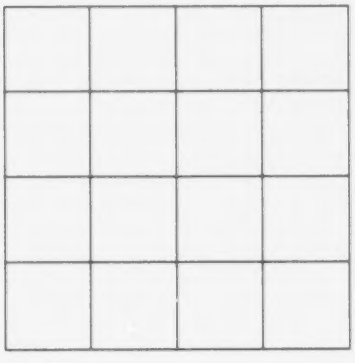


C



D

Activity Analysis

To begin the playroom layout process it is necessary to list each of the children's activities that would require a place in the room. For example, the ***entry*** to the playroom would require space for children to be welcomed, store their belongings, greet other children, etc. This might also be an appropriate location for the ***cubbies.*** Once leaving the ***entry*** area and proceeding into the playroom there may be several choices of places a child may enter, depending on the teacher's program for the day.

A graphic method for describing the locations of learning centers are referred to as a **bubble diagram**. In this diagramming method, circles or bubbles are used to represent learning centers and other areas in the playroom, such as the toilet. Placing the bubbles in relationship to one another on a sheet of paper allows for the manipulation of learning centers to correspond to grouping them according to whether they are quiet or noisy.

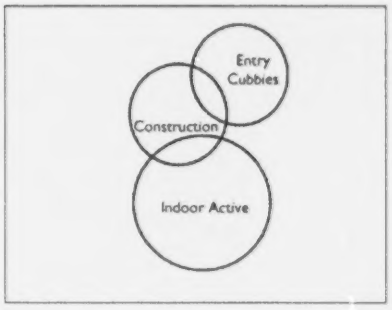
Once the diagram is completed, it is possible to assign the amount of floor area necessary to accommodate the estimated number of children that might occupy the location at a given time.

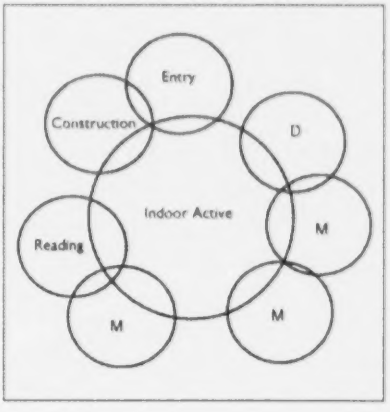
Using a guideline of 100 square feet *(sq.ft.)** for each learning center, comprised of from two to five children, the number of learning centers can be adjusted to fit the total playroom area.

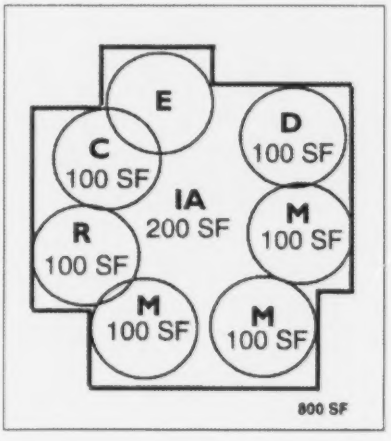
For example, using a figure of 45 sq. ft. per child for a playroom consisting of 20 children, the total area would be 900 sq. ft. Assuming 100 square feet for fixed equipment, 800 sq. ft. remains for usable playspace. Allowing 200 sq. ft. for a large group area, the remainder available for planning different learning centers is 600 sq.ft.

At this point, the bubbles need to be repositioned into a more regular geometric form for a playroom, maintaining the desirable locations previously established.

**Note: A space 10ft. by 10ft. can be measured by counting 1ft. by 1ft. floor tiles or pacing off the length using each footstep as 1ft.*







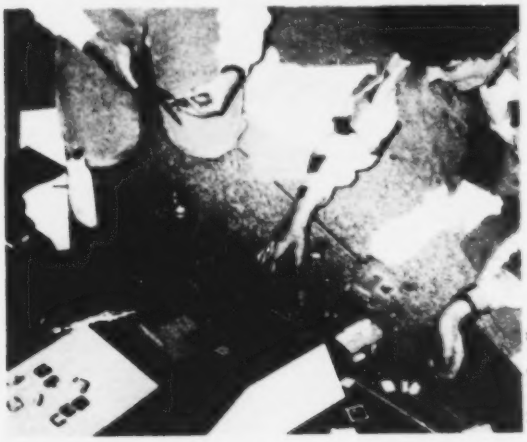
Modeling the Playroom

This exercise can be used to evaluate and modify an existing playroom or to create an ideal playroom. Any planning activity requires the imagination of future situations and the anticipation of future needs.

The purpose of this exercise is to reorganize the playroom, in order to facilitate the flow between and clarity of learning centers. The intent is to differentiate between the major playroom functions and their spatial requirements by rearranging them according to appropriate learning objectives. The playroom is a system of interrelated parts that can be measured and categorized. Color codes can be used to map the various functions of the playroom on a floor plan. In addition, three-dimensional scale models *(where 1 inch on a ruler is equivalent to 1 foot)* can be created to simulate, propose and test new ideas. Comparisons can be made between the actual arrangement of the playroom with the two-dimensional and three-dimensional representations.

This exercise will enable students to anticipate the consequences of their original plan by examining and analyzing the results and encouraging comments from all participants in this exercise.

For a two-dimensional floor plan, colored paper can be used to denote different parts and functions of the playroom and manipulated on a large piece of white illustration board or newsprint paper.



The procedure for modeling the playroom is as follows:

1. *List the contents and furnishings of the playroom*

2. *The spatial relationships between the learning centers should be explained and described*

3. *The playroom to be studied should be measured noting any important internal features. For a hypothetical playroom, it would be necessary to estimate the most desirable proportions and sizes, locating placement of windows, doors, etc.*

4. *The measurements should be divided according to the reduced scale measurements of 1 inch =1 foot*

For a three-dimensional model, furniture and fixtures can be built from Styrofoam or cardboard. Walls, with appropriate openings for windows can also be made from cardboard using rulers for measuring and scissors and knives for cutting.

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Proposed plans can be tested and evaluated by rearranging the furniture and fixtures in the model or floor plan and discussing the effects of the changes.

Once the playroom is evaluated as an organization whose purpose is to facilitate learning it is possible to discuss where the organization works and where it fails.

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Wall Treatment

The size and shape of walls and the hardness of surfaces are all seen sharply by children in contrast to smaller, warmer, interconnected spaces they experience at home. While the home should not be duplicated in preschool spaces, certain qualities of home can be achieved such as smaller elements, warmer colors and texture, lower center of visual interest, and subdivision of space. These are qualities that will help a child find security in a room and develop a sense of ownership by finding places for retreat and safety as well as for exploration.

Children are fascinated by surface patterns and textures, but at the same time, have an irresistible urge to possess them, usually through elaborate drawing. It is essential to provide ample scope for such activity, either with markable wall coverings or replaceable wall surfaces.

Interior space should not bombard children visually. Excessive use of bright, primary colors, walls crammed with posters, alphabets, numerals, animals, dinosaurs, etc., is over stimulating. They discourage rather than encourage learning. The adult view of a child-friendly decor—primary colors and cartoon pictures—has no basis in children's own preferences. Such schemes can be visually noisy and stressful. Children discover and learn best in an environment that is tranquil, welcoming, consistent and orderly.

Walls need to be visually balanced at the child's eye level. If the brightest space in the playroom is the upper half, the lower half has to be brightened. If functional elements of the walls such as tack boards, hooks, mirrors, etc. are above the eye level of a seated child, they should be lowered. Massive walls should be subdivided by paint or surface texture so the upper part appears as a background and lower part appears as a foreground where the child feels invited to play and work.

Displaying children's work is an opportunity to contribute to the educational environment of the playroom. When children's processes as well as products are shown, their learning becomes visibly evident whereby they can relive their creative experiences. Surrounded by words describing their thoughts, by their work, and by photographs as they create, children know that their environment belongs to them, and they belong to the environment.

Observe the photographs on the right column.

What would you describe as the positive features?

Photo **A** _____

_____

_____

Photo **B** _____

_____

_____

Photo **C** _____

_____

_____

What would you describe as the negative features?

Photo **A** _____

_____

_____

Photo **B** _____

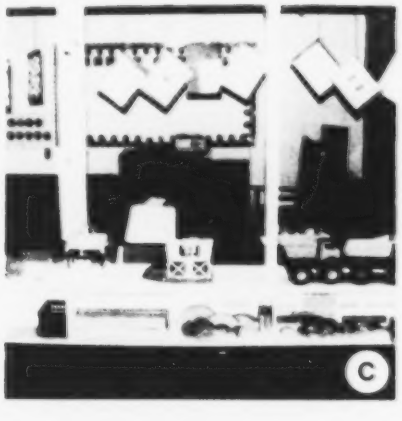
_____

_____

Photo **C** _____

_____

_____



Evaluating the Playroom

The intent of an assessment procedure is to provide an indication of major failures and successes of a building's performance. Evaluations, usually referred to as Post Occupancy Evaluations (POE's) focus on the building occupants and their needs. This information is useful for the purpose of immediately correcting problems, and fine-tuning the building's performance through continuous feedback. This type of study is usually carried out within a very short time span, usually from one to three hours to one or two days.

If possible, as-built drawings of the facility should be obtained in advance of the visit. The procedure consists of a walk-through evaluation of the entire facility. Through the use of direct observation using the Playroom Assessment Scale, Anti-bias Checklist (Unit 4) and Playground Assessment Scale (Unit 6), and if warranted, still photography could be used to identify building and spatial attributes.

A scheme for organizing an evaluation must consider four factors:

1. The *setting*- the social and physical characteristics that constitute a children's center such as playroom arrangement, noise, light, and temperature

2. The *users*-the background needs and behavior of the people who are involved in the setting

3. The *context*-the social and physical local conditions that could effect the children's center such as the type of neighborhood, transportation and safety

4. The *design process*-assumptions and decisions made about user behavior, and the factors that influenced the final design of the setting

Playroom Assessment Scale

Playroom organization is an important environmental factor that can facilitate and enhance learning objectives. The playroom can be manipulated to create well defined learning centers for large and small group activities. Such definition is shaped by various types of furniture and equipment used to establish a sense of enclosure.

This assessment scale is aimed at obtaining an overall description of a preschool playroom. Observing, judging and comparing is the basis of this approach using the physical characteristics listed below. Record your assessment for each of the twelve characteristics on the 5-point scale located on p.58. Consider only the layout and physical elements of the playroom, such as boundaries, furniture, floor levels, and ceiling height.

To obtain an assessment profile of the playroom, connect the selected points on each scale. Comparisons of two or more playrooms are possible by separately recording each observation and plotting their profiles using different colors to denote the various playrooms.

Playroom Assessment Scale

Adapted from *Early Childhood Physical Environment Observation Schedule & Rating Scales* by G. Moore, published by Center for Architecture and Urban Planning Research, University of Wisconsin-Milwaukee, 1994

	strong some undecided some strong	
•*Closure of spaces:* Are learning centers physically and visually enclosed from each other?	closure	_ _ _ _ _ lack of closure
•*Spatial separation:* Are there walls, furniture, level changes dividing the learning centers from one another?	separation	_ _ _ _ _ lack of separation
•*Visual connection:* Are the learning centers visually accessible amongst each other?	connection	_ _ _ _ _ lack of connection
•*Size of spaces:* Are the learning centers of appropriate size for the activity they serve?	appropriate	_ _ _ _ _ inappropriate
•*Circulation zones:* Are there clear circulation paths, separate from learning centers?	separation	_ _ _ _ _ lack of separation
•*Staff interaction:* Are staff areas physically and visually separated from children's areas?	separation	_ _ _ _ _ lack of separation
•*Privacy:* Is there quiet space set aside that is protected from intrusion?	privacy	_ _ _ _ _ lack of privacy
•*Seating:* Is there a variety of seating and working positions within the learning centers?	variety	_ _ _ _ _ lack of variety
•*Surfaces:* Are there appropriate surfaces for work, display and storage in each learning center?	appropriate	_ _ _ _ _ inappropriate
•*Outdoor space:* Are there visual and accessible connections between the indoor and outdoor activity area?	connection	_ _ _ _ _ lack of connection
•*Flexibility:* Are the learning centers flexible for a change in arrangement?	flexibility	_ _ _ _ _ lack of flexibility
•*Scale:* Is the environment (doors, windows, furniture, work surfaces) child scaled?	appropriate	_ _ _ _ _ inappropriate
•*Storage:* Are there furnishings and materials appropriate for each learning center directly accessible to children?	appropriate	_ _ _ _ _ inappropriate
•*Display:* Is the children's work displayed at a child's eye level?	appropriate	_ _ _ _ _ inappropriate
•*Entry:* Are major learning centers visible from the entry?	visibility	_ _ _ _ _ lack of visibility

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Unit 4 BUILDING IMAGE

Many places tell us how we are expected to behave, what to do or what not to do. Sometimes it may be a sign labeling or giving information.

In a similar way to that in which our clothes, hair style and length, cars, and houses differentiate us from our neighbors, buildings can symbolically represent an attitude about what is taking place inside. Buildings have certain qualities that can evoke a strong image in any observer. Buildings convey silent messages reflecting their inner life and activities. They can be inviting or foreboding. Their image or appearance is important and can have a profound effect on young children.

Some places tell us about themselves almost as if they were speaking. They tell us about what happened and what ought to happen there. The shape of the spaces, furniture arrangements, and signs, are physical cues that transmit silent messages that evoke a response. Interior space planning involving the selection and arrangement of furnishings is an example of how the physical environment is used to reflect underlying social norms and values by conveying messages about status, leadership, and appropriate role behavior. Toys and play structures tell chidren what they can do, whereas the aesthetic quality of a children's center affects children's emotions and conveys messages about their self-worth.

People also manipulate their places intentionally to give information or send messages about themselves. Front yards and facades present the face of a building, while fences and furniture define boundaries.

The interpretation of a message depends on the receiver's level of awareness as well as the clarity of the message. Sometimes messages are precise. Corporate headquarters, hotels, and schools often convey an easily identifiable message about their identity.

The associations we have with buildings, however, vary with time. Old factories and warehouses that were considered eyesores and financial liabilities thirty years ago have become valued for their durability and their history and have been restored into useful and successful business ventures. Yet we also see the creation of new buildings whose form expresses no particular function, like banks that look like colonial homes, restaurants that look like gas stations, and apartment buildings that look like insurance buildings.

We can always recognize a school building, whether it was constructed in the 1920's or more recently. What does a child care center look like? What is more important is to identify the appropriate image of a child care enter?

- Should the building convey the message that it is a special place for young children?

- Should the entrance be welcoming for parents and children?

- Should the size and scale of the building reflect the size of most of its occupants?

These and other related questions form the basis for understanding building imageability and the exercises that follow.

Building Image Survey

We often feel emotionally triggered by a building image. Our first impression is to either like or dislike it, but if we look more carefully for the reasons for our preferences we may find relations between present feelings and experiences.

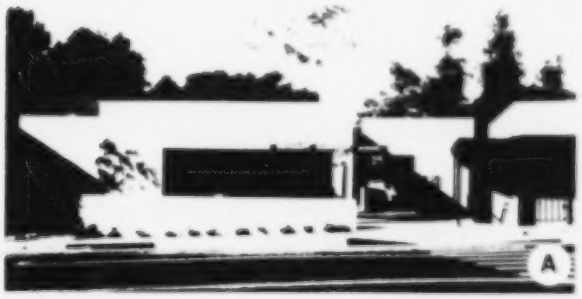
If you are in a group, share you opinions with the others. Are there any similarities between the choices made by group members? If there are differences, try to convince each other why your choice is best in order to achieve group consensus.

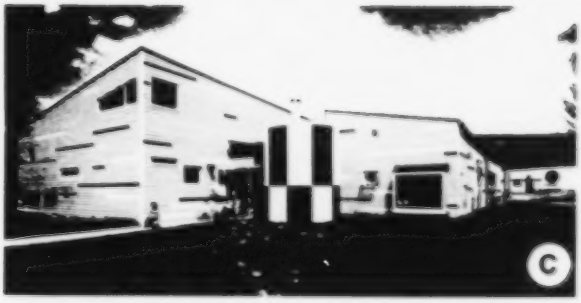
1. Mark with "L" the picture of the building that best fits your idea of an early learning center.

2. Briefly, describe the characteristics of the picture that influenced your choice.

3. Mark with "D" the picture of the building you dislike the most.

4. What characteristics do you particularly dislike about the building? Why?





Entrance Assessment

Entrances can have different meanings that depend on our ways of looking at objects. The meaning of entrance goes further beyond the fact that every opening in the ground floor level that goes down to the floor is immediately understood as an entrance.

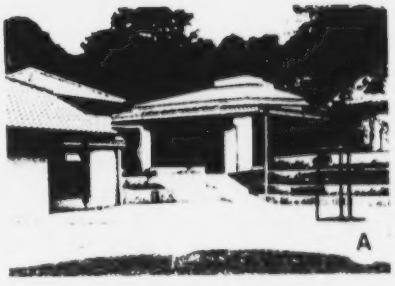
In some cases, we can easily identify who uses the building, and what happens inside it by looking at its entrance. This always occurs when some physical aspects of the entrance fit the idea we have about certain people who inhabit the building, and what they do there.

1. Which of the images best fits your idea of an entrance to an early learning center?

_____

_____

_____



2. Would you briefly explain the reasons for your choice.

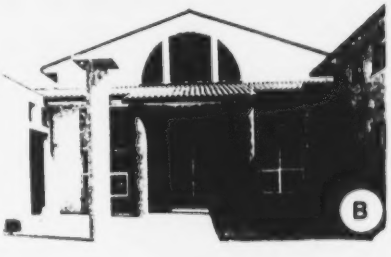
_____

_____

_____

_____

_____



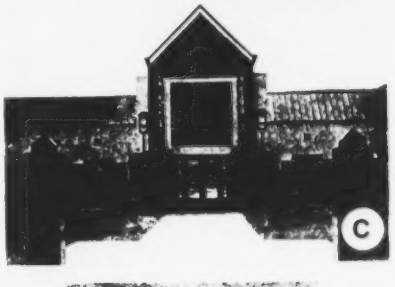
3. Which of the entrances reflects a unique identity for a child care facility?

_____

_____

_____

_____



4. Would you briefly explain the reason for your choice.

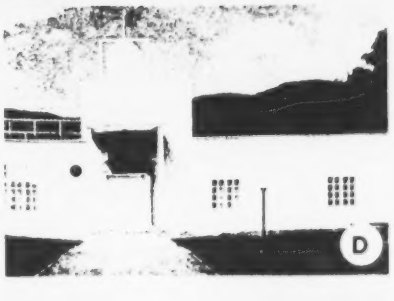
_____

_____

_____

_____

_____



If this exercise is conducted in groups, share your opinion and discuss different perceptions of the group members.

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An Anti-Bias Environment

Children begin to notice differences and begin to classify and catagorize very early. They make early observations of racial cues and make evaluative judgements. Young childen are harmed by the impact of sexism, racism, and handicappism on their development. Gender stereotyping closes areas of experiencs to children because of their sex. Early childhood teachers need to develop ways to prevent any developmental deficiencies created by gender stereotyping.

A playroom rich in the possibilities for exploring gender, race/ethnicity, and differentabledness sets the scene for creating an anti-bias environment. The material resources in the playroom provide children with important information. What is in the environment alerts children to what the teacher considers important. Creating a diverse environment is the first step in implementing anti-bias activities.

This section was designed to develop the skills and abilities needed to foster a learning environment free of gender and racial/ethnic stereotyping. Stereotypes are oversimplified generalizations about a particular group that usually has derogatory inferences.

This process consists of an exercise aimed at assessing individual attitudes and beliefs about an anti-bias playroom. Clearly, there is also gender bias frequently used in language as well as in the display of negative (hitting) and positive behaviors (helping) displayed in pictures and observable in children's behavior. (For an authoritative source on the subject, refer to *Anti-Bias Curriculum: Tools for Empowering Young Children* by Louise Derman-Sparks and the A.B.C. Task Force).

The visual environment should reflect images that accurately reflect people's current daily lives in the United States. This should include images of children and adults from the major racial/ethnic groups in the community, images of diversity in family styles, images of women and men working in and outside of the home, images of differently abled people shown doing work, and images of elderly people doing different activities. Artwork too should reflect the environment of different cultural groups in the community as well as in the United States.

If the children's play choices divide according to gender lines it may be necessary to reorganize particular learning centers to encourage more cross-gender choices. The dramatic play center, for example, could be expanded to include play props reflecting the occupations of children's parents.

Observation Checklist

Adapted from *Non-sexist Education for Young Children: A Practical Guide* by Barbara Sprung, published by the Women's Action Alliance, 1975

Are there the same number of pictures of girls as pictures of boys displayed around the room?

__yes __no

If not, how many are pictures of girls? _____

How many are pictures of boys? _____

Do the pictures of girls show them involved in active play?

__yes __no

Do the pictures of boys show them in caring roles?

__yes __no

In which areas of the playroom are pictures displayed of both sexes involved in that learning center's activities?

__art
__block play
__construction
__cooking
__dramatic play
__listening
__indoor active
__manipulative
__math
__music and movement
__reading/pre-writing
__sand/water play
__science

Do boys and girls play in all areas of the classroom?

If not, in which areas don't girls play?

_____
_____
_____
_____
_____

In which areas don't boys play?

_____
_____
_____
_____
_____

Philosophy and Design

The culmination of learning theories, educational values and philosophical ideals should result in appropriately designed buildings for the education of young children. The creation of children's centers, like other types of buildings, is the result of a lengthy and complex decision making process. This involves formulating and translating building objectives into a building form. Constraints such as building regulations, time, and budget are also factors that influence building decisions.

The school floor plan is a reflection of the goals and activities of the buildings users as interpreted by the architect. From the floor plan it is possible to understand and predict traffic flow and circulation patterns, location of playrooms with regard to the outdoors and to each other, and daylight conditions in playrooms. A floor plan can also reveal the presence or absence of certain functions. Opportunity for social interaction and openness is equally influenced by the floor plan.

Therefore, different ideas about education could be traced to differences in floor plans of schools. When the completed building corresponds to the objectives, in accordance with the preferences and needs of the building's occupants, a balance exists between the desired activities and the places in which they are performed. On the contrary, if the activities cannot be performed efficiently, or the arrangement of spaces does not match the educational objectives, an imbalance exists.

Achieving a good balance between the educational objectives and the spatial arrangement are evident when examining specific educational philosophies and how they are reflected and translated into a building. To demonstrate this view the educational philosophies of Reggio Emilia, Rudolph Steiner (Waldorf Education) and Montessori were selected.

Each of the educational philosophies is discussed and followed with examples of specific school buildings that have attempted to incorporate the educational intentions into the floor plan and building features.

Reggio Emilia is a city of 130,000 people in Northern Italy. Its municipal early childhood system has become recognized and acclaimed as one of the best education systems in the world, according to a *Newsweek* article in 1991. The city operates 22 schools for children age 3-6, and 13 infant-toddler centers for children 0-3. Over the past 30 years the system has evolved a distinctive philosophy, curriculum, and design of environments that has become known as the Reggio Emilia approach. The Reggio story is told in the book, *The Hundred Languages of Children: The Reggio Emilia Approach to Early Childhood Education* (1994) by C. Edwards, L. Gandini & G. Forman.

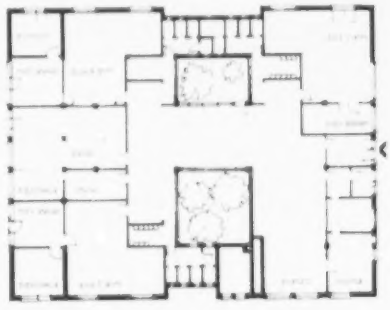
The physical environment at Reggio educates the child, and is considered as the *third* teacher along with the team of two teachers.

Space at Reggio is valued because of its power to organize and promote pleasant relationships between people of different ages, to provide changes, to promote choices and activity, and for its potential for sparking different types of social, cognitive, and affective learning. The space within the school mirrors the ideas, values, attitudes, and cultures of the people within it.

For the educators in Reggio Emilia, social exchange is essential in learning. Through shared activity, communication, cooperation, and even conflict, children co-construct their knowledge of the world. Because social development is an intrinsic part of cognitive development, the space is planned and set up to facilitate encounters, interactions, and exchanges among children.

Teachers of the Diana School

In the plan of the Diana school there is a main common space or *piazza*, the same term used for a city square. Here the idea of the school is a reflection of the society around it. All interior spaces open toward the piazza. The *atelier* or studio/workshop is used by all the children and adults. It is the place in the school to explore with the hands and with the mind. Through the practice of the visual arts, all projects are connected with the activities planned in the classroom.



There are interior gardens enclosed with glass walls to contribute natural light and provide continuity with all other spaces in the school. Glass walls also separate working areas to create a communal feeling. There are also small, intimate spaces such as the *mini atelier*, and other small enclosures in which one can spend time.

Montessori Philosophy

The overall approach of the Montessori program aims at helping children develop, organize, and refine their sensory perceptions of sight, sound, touch, smell, and taste. In a prepared environment the child participates in practical life activities; such experiences are designed to stimulate the senses.

Montessori education is based upon the principle that young children learn in a way that is fundamentally different from how adults learn. The program is directed towards ideas about how young children grow and their capacity to learn much during their early years. This helps children initiate activities, and to be free in selecting the activities they like. Younger children may be learning how to participate in specific activities by observing and imitating their older classmates. Within the education program, children engage in a self-corrected process, since the design of the educational materials teach specific lessons. The materials are graduated from simple to more complex. Therefore, progressively more difficult concepts challenge the children. Montessori emphasizes the sensitive period in children' s development. The period from birth to three years old is defined by this system as *the unconscious absorbent mind*. In this period, children take in everything from their environment. The period from three to seven years old is defined as *the conscious absorbent mind*, since children start to distinguish relevant from irrelevant according to their awareness.Corresponding with these definitions, the Montessori system is divided into: motor education, sensory education, and language.

According to the philosophy of Montessori, the care and management of the environment are the principal means of various types of education. The premise of this method of teaching is that the control of error lies in the material itself, and the child has concrete evidence of it. This explains why the predetermined order in which the materials are given to the children is more important than the actual content. The order is arranged as follows:

- *Recognition of identities.*
- *Recognition of contrasts*
- *Discrimination between similar objects.*

The principles of Montessori are tools for achieving liberty and freedom, since the child is always seeking to expand his/her own personality.

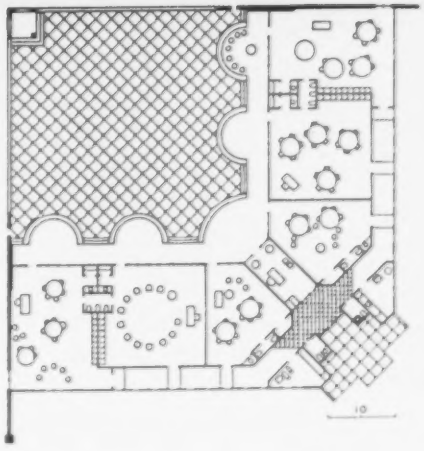
Countryside Montessori School

Charlotte, North Carolina

This Montessori School, designed by architect, David Furman, is in a planned community near the campus of the University of North Carolina in Charlotte. The building layout takes the form of an "L" shape, where the classrooms partially enclose the outdoor play area. The school has one main entrance. There is no central hall; instead, there is a corridor, with classrooms only on one side. This is usually referred to as a single loaded corridor. A double loaded corridor has classrooms located on opposite sides of a hallway.

Classrooms are connected to private patios with low semi-circular sitting walls that are used as outdoor classrooms. The idea of creating classrooms with an adjacent play area helps to encourage the interaction between indoor and outdoor activities. This permits the experience of being involved in certain types of activities, and watching and observing other activities. This also widens the range of possible informal learning.

Each classroom has its own identity through the spatial organization and the arrangement of the furniture. The children work on mats spread on the floor and large tables to designate their work area. Couches with quilts and pillows are common in the classroom where tables are child-sized and lightweight. All materials are placed at eye-level and are easily accessible to the child.



The Montessori method of preparing the environment to serve the unique needs of each individual child allows a number of children to work independently and in collaborative groups, in the same classroom, at the same time.

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RUDOLPH STEINER PHILOSOPHY (WALDORF EDUCATION)

Waldorf education is founded on respect for the individual child as a developing human being. The development is not a product of heredity and environment only, but also of one's own individuality. This system seeks to prepare the mind, enrich and ennoble the feelings, and bring forth the strength of commitment necessary to meet the self chosen aims of life. Learning is non-cognitive, since there is no formal instruction in reading, arithmetic, or other academic subjects. The intent is to provide a setting that offers a rich exposure to language and culture through play, and creative and practical activities. Moreover, emotional development and eurythmy play, which is the relation of gesture and mime to the forming of speech, or an expression in bodily movement considered to have an important role in developing the individual. The philosophy of Waldorf Education focuses on:

- *The highest endeavor must be to develop human beings, who are able of themselves to impart purpose and direction to their lives.*

- *The main concern is art. The art of awakening what is within the human being.*

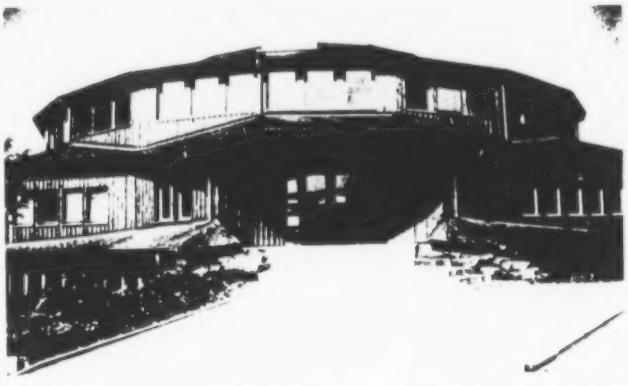
- *The need for imagination, a sense of truth, and a feeling of responsibility are three forces that are highly important in the development of a child.*

Waldorf education is unique, since its practice is founded upon insight into the changing interplay of body, soul and spirit in the different periods of the child's development. This spiritual science is also referred to as anthroposophy. The curriculum and the method of teaching are based on the fact that children, in their earliest years, respond to the world through imitating, reliving, and re-enacting their experience, and absorb and digest their surround-ings. Thus, special care is given to create a play environment that is beautiful, unhurried, and secure.

Through teacher guidance, there is a balance between more active pursuits such as imaginative play, circle games, cooking, baking and singing, and more receptive activities such as listening to stories, drawing or painting. Within these types of activities, children can have the experience of being part of a group, which enhance their attitudes.

Christian-Morgenstern Waldorf School

Rultingen, Germany



The aim of the school was to transfer from the inside outwards the Waldorf idea of education and, simultaneously, to provide room for the special requirements of Rudolf Steiner's educational philosophy. The two-story building designed by Peter Hubner, was largely built through self- help by students, teachers, jobless youths, and students of architecture and constructed from recycled parts of an old office barrack. The first floor includes all the school facilities, while the second floor includes the classrooms and a recreational space. The layout of the school was based on the grid of a pentagon, with a central drama and eurythmy space taking priority in the organization of the plan. The school has one main entrance, in addition to the facilities' entrances.

Classrooms are located side by side and connected with a circular corridor. In between classrooms, there is one large common recreational space, and has access from the corridor, and from the first floor by stairs.

A eurythmy dance space is located in the heart of the first floor, and has direct access from the entrance foyer. It includes a defined stage area. The building facilities (kitchen, canteen, dining room, and staff space) are located around the dance space, which reflects its importance.

What makes the building unique is the arrangement of classrooms around a corridor that take a pentagonal shape. Due to the symbolism of the pentagon, this holistic building form reflects the holistic spirit of anthroposophy.

The building has a very distinct spatial organization, which represents, clearly, the philosophy of Waldorf education. Since drama and eurythmy have a high priority within the anthroposophical schools, the dance space represents the essence of this philosophy in the floor plan.

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The Hartsbrook Waldorf School

Hadley, Massachusetts

The school is located on a site reflecting the New England farming landscape. The architects, Maryann Thompson and Charles Rose integrated the philosophical foundation of Waldorf education as they considered the site, distant views, the relationship of classroom spaces, and the spaces themselves, in terms of form, color, proportion, and detail. The building form and placement suggest the scale and simplicity of farm buildings while also expressing the very contemporary nature of the school.

The layout of the school has a rectangular shape. There is no central hall, but an outdoor corridor, that leads to classrooms. The covered corridor is the only traffic space in the school. The building has several entrances, but there are two main entrances. One leads to the lobby and the meeting space, while the other leads to classrooms' corridor and the second floor. The lobby has an exhibition space for the work of the children. The eurythmy dance space/ assembly room is located on the second floor connected to the curative movement room. Both open onto an outdoor deck. This eurythmy room has a vaulted ceiling intended to reflect the vault of the sky beyond with its curvature and lightness. The large, open windows to the North will allow the northern light to flood the space, while the windows on the south side of the room are narrow and deep set, controlling the brilliance and glare of the southern sun as it enters.

The plan of the school has a linear organization where the connected rooms form a row. The arrangement is based on connecting indoor and outdoor activities. This is evident through the connection between the dance space and the outdoor deck, and the connection between the classrooms and the covered corridor.

The building is purely expressive, since each part has its own character. On the basis of the ideas of anthroposophy, a spiritual science that is a harmony between the spirit, the soul and the body, the building's curves attempt to express the functions and the activities of the students within.

Unit 5 PLANNING THE FACILITY

The basic design goal of a child development facility is to have all major design decisions based on the developmental needs of children. In a nationally recognized study, as previously stated, it was found that facility size was a reliable predictor of program quality. The variety and quality of children's developmental experiences were directly affected by the size of the facility. In children's centers that served over 60 children, major emphasis tended to be placed on rules and routines. In smaller centers, opportunities for pleasure, wonder and delight were significantly higher. Researchers also found that large centers rarely offered children the experience of participating in groups varying in age. Integrating children of different ages in smaller centers allowed opportunities for older children to serve as models and facilitators and enriching the play experiences for all. The play areas in large centers were rated low on organization, variety and the amount of things to do per child.

Generally, in large centers children are overwhelmed by a number of things including the number of staff, the size of space, and the total number of children. The results of all research related to developmental opportunities for children and effective facility management suggests that child care facilities should be designed for about 60 to 75 children. This does not imply that larger facilities are neither possible nor desirable. Creating developmentally appropriate facilities for large numbers of children can be achieved by using a planning module of 60 to 75 children.

Henry Sanoff

Building Layout

The aim of this section is to examine the relationship between organization and building layout. An early learning center is a type of organization since it contains social groups such as staff and children, as well as social and educational goals. Therefore, the organization of a children's center is a set of social relations. The layout of a building is a set of spatial relations. When the aim is to adapt the building and the organization to each other, intimate knowledge is needed of the organization that is to use the building. This linking process is the relationship between social relations and spatial relations.

The layout of a building can enhance educational goals, particularly when the goals have environmental implications. To illustrate this point, there are several ideas for a building layout. There is also a series of questions to allow each layout to be evaluated.

The questions combine educational and environmental goals.

Which is the best layout that allows for mixed age groups?
__A __B __C __D __E

Which is the best layout to promote interaction between children?
__A __B __C __D __E

Which is the best layout for outdoor play?
__A __B __C __D __E

Which layout has the most welcoming building entrance?
__A __B __C __D __E

Which is the best overall layout?
__A __B __C __D __E

What is the best feature of this layout?

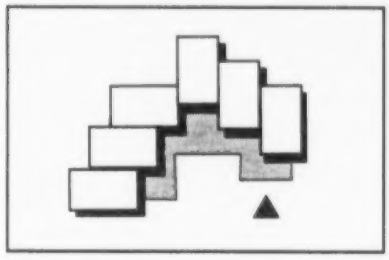
_____
_____
_____
_____

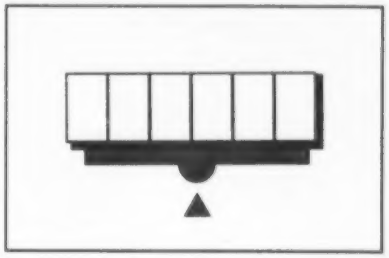
Which layout do you like the least?
__A __B __C __D __E

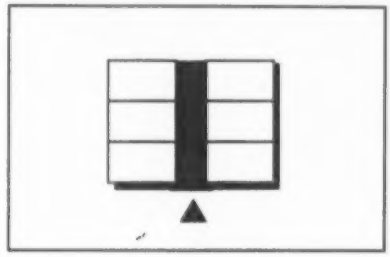
Why?

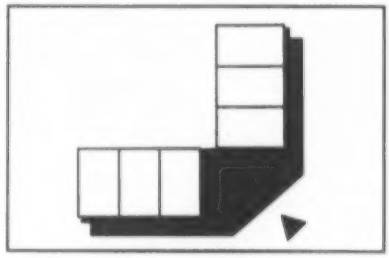
_____
_____
_____
_____

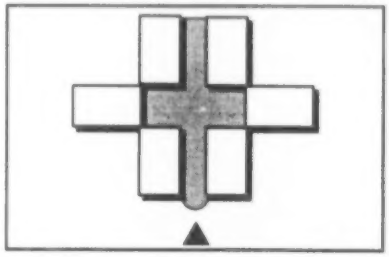
Discuss your decisions with other members of your group and try to achieve consensus about your decisions.











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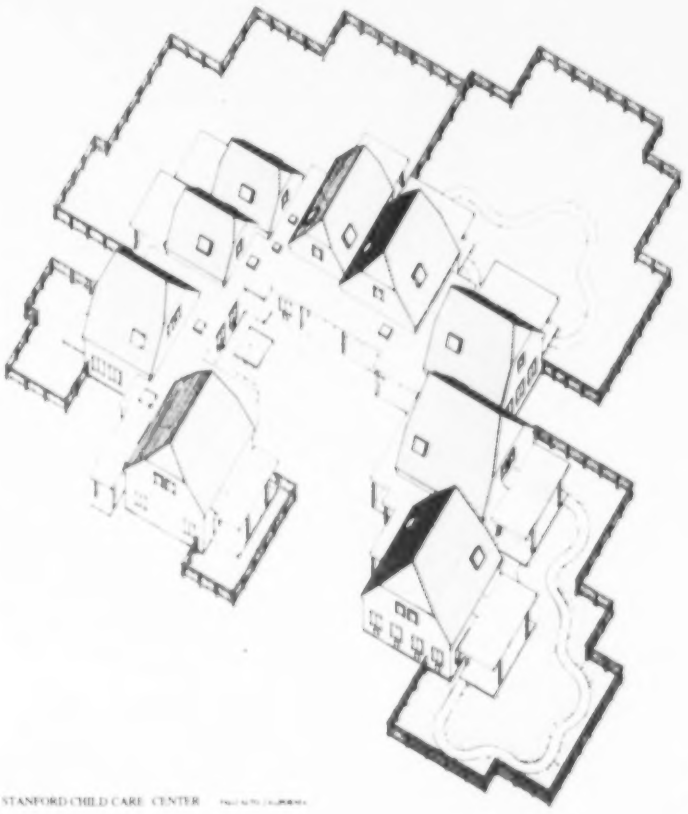
Stanford Arboretum Children's Center

This children's center was designed by Architect, Donald McDonald, to provide a home-like setting for 106 infants, toddlers, preschoolers, and mildly ill/recuperating children. Located near the arboretum on the Stanford University campus, the center was built in 1988 for the offspring of faculty, staff, and students in response to the growing need for child care, particularly for families with special needs.

The building design aimed to create a place that would be "home-like" in order to minimize the trauma of the child's transition from home to a social environment. Similarly, the building scale would complement the home-like atmosphere. To this end, the building is subdivided into small modules, making each playroom a recognizable, individual "house" with a pitched roof, giving it a residential character. The get-well facility is separated from the center by its own entry, kitchen, and laundry. This decision was the result of considerable concern for the spreading of viruses and bacteria.

The general layout of the center follows a spiral shape of a nautilus shell. Playrooms graduate in size from one end of the spiral to the other, where infants occupy the smallest playrooms located close to the entry and lobby, toddlers, the larger one, and pre-schoolers the largest. As children grow older they move up the spiral, symbolizing increased independence and growth. The spiral shape also follows the path of the sun, allowing all rooms to have sunlight during the daytime. This layout also permits expansion of the playrooms as well as enlarging the building by extending the spiral.

The director's office is located near the entrance with a view of the entire building. This location permits the director to monitor all parts of the building complex.



STANFORD CHILD CARE CENTER

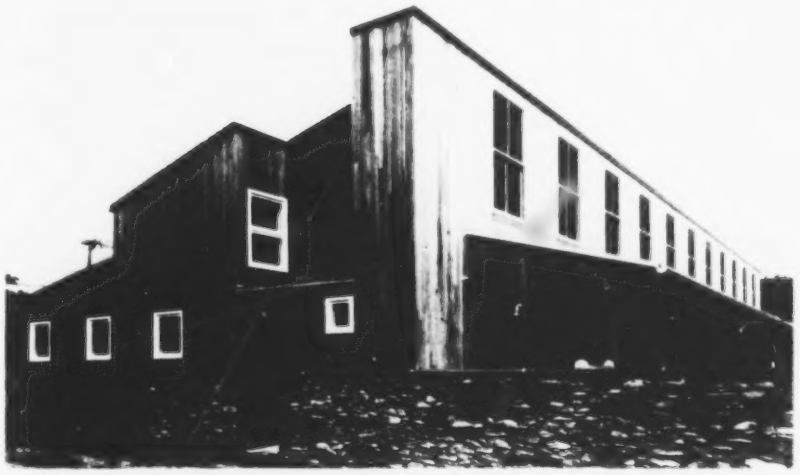
The building is located adjacent to the arboretum and incorporates the existing vegetation into the play yards to provide a varied environment with both sunny and shaded areas. The landscaped yards include sand pits, play structures, and tricycle paths.

Each playroom is designed to symbolically replicate the surrounding environment. The ceilings are painted light blue and clear skylights provide a direct view of the sky and tree outside. The green grass is extended into the building through the use of a soft green carpet, and by green doors and window frames. Each playroom also has an exterior covered play area providing shade on sunny days and cover on rainy days. The green of the roof blends in with the tree canopies and makes the building appear to be part of the natural setting.

The building is heated with a radiant floor heating system and is partially carpeted, particularly conducive for children to use the floor for many activities.

Little Friends Farm Childcare Center

This privately owned and operated chidren's center located in Middletown, Rhode Island, was designed by Architects, Shannon Criss and Kieran Gore, and built on the site of a six acre potato farm. The center has the capacity for 42 children from five weeks to six years of age. The children are divided into three age groups: infants and toddlers, preschoolers, and kindergartners. Each of the large rooms is subdivided into learning centers, with alcoves and special places for a greenhouse, and a dramatic play area. The South facing playrooms have a variety of ceiling heights that further help to emphasize the different learning centers. A covered porch stretches along the South side of the building opening to play yards and gardens beyond. Large South-facing windows above the porch provide daylight for the playrooms. Smaller high windows on the North side help to balance the South light and allow for cross ventilation. The building entrance serves as a gallery displaying children's artwork and containing cubbies next to their playrooms.



The rural setting is characterized by old barns, stone walls, and rows of vegetation. Adjacent to the site is a farm with sheep, pigs, horses, and chickens. The agricultural character of the setting is reinforced by the learning experiences of the children that include gardening and animal husbandry.

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A Multiple Wing Children's Center

Although it has already been established that the ideal size for a children's center is between 60 and 75 children, it is necessary to consider the possibility of providing for larger numbers of children.

This children's center is based on a proposed design strategy for accommodating a large number of children. Twelve playrooms are clustered into groups of four rooms connected to a central administrative spine. This cluster scheme allows for all playrooms to have direct access to south facing outdoor play areas. An infant toddler wing can have its own outdoor play area apart from the older children. All playrooms have an outdoor protected play area for use during inclement weather.

Each wing of the center, with approximately 75 children, has its own identity allowing for the intimacy usual in smaller centers. A variety of shapes are included in the playrooms to differentiate each from the other.

The difference in building cost between single, large facilities and multiple wing centers is not significant when considering the developmental opportunities afforded by reducing the scale of the building in order to retain the image of being small.

Deborah Cole

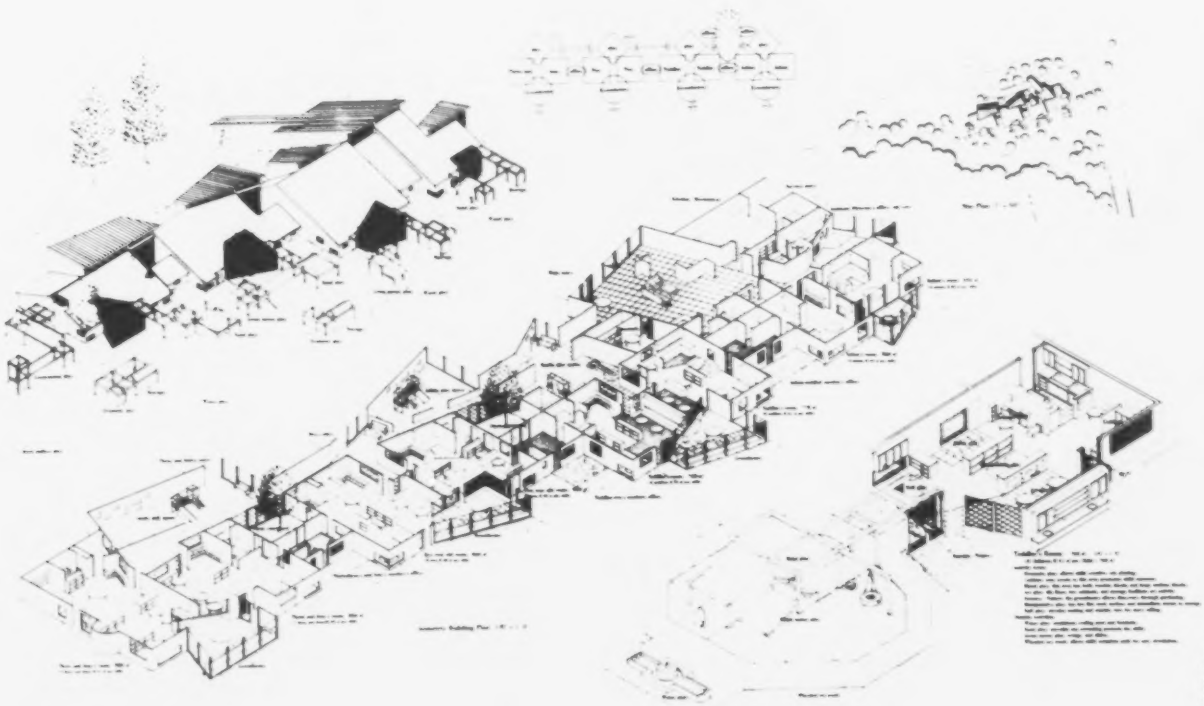
The House as a Metaphor for a Children's Center

This children's center was designed by David Shelton for 120 children, where each age group has their own *house*.

The infant and toddler areas are adjacent to the main entrance. A main *street* connects all the *houses* that are separated by small open courtyards that open into the teachers work rooms. These special rooms allow teachers to consult with parents as they observe their children.

Each house contains two playrooms, an indoor play area, a greenhouse and its own south-facing outdoor play area. The greenhouse serves as a science-nature area that can be used jointly by playrooms in each house, providing an opportunity for increased interaction among children.

The design intent was to make a large center appear small. Thus the concept of the house allowed the building to be subdivided into a more intimate and child-like scale. Partially separated, partially inter-connected spaces can provide special places where children from different houses can be with their own group and mix with other children of different groups and ages.

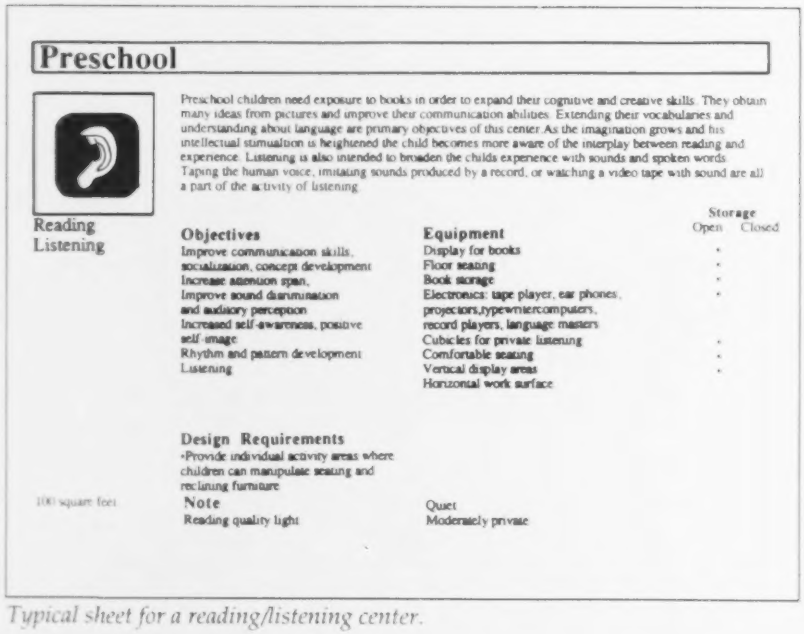


Child Development Center

David Shelton

A Participatory Design Process

The purpose of this project was to create a child development center for 120 children. From infants to toddlers to preschoolers, playrooms were designed by Graham Adams and Henry Sanoff to accommodate a variety of activities into learning centers. Since the playroom is the primary spatial component of a children's center, prior familiarity with its requirements can enable teachers to enter into a productive dialogue with the architect.


Preschool
Preschool children need exposure to books in order to expand their cognitive and creative skills. They obtain many ideas from pictures and improve their communication abilities. Extending their vocabularies and understanding about language are primary objectives of this center. As the imagination grows and his intellectual stimualtion is heightened the child becomes more aware of the interplay between reading and experience. Listening is also intended to broaden the childs experience with sounds and spoken words. Taping the human voice, imitating sounds produced by a record, or watching a video tape with sound are all a part of the activity of listening.
Reading
Listening
Objectives
Improve communication skills, socialization, concept development
Increase attention span,
Improve sound discrimination and auditory perception
Increased self-awareness, positive self-image
Rhythm and pattern development
Listening
Equipment
Storage
Open
Closed
Display for books
Floor seating
Book storage
Electronics: tape player, ear phones, projectors,typewriter computers, record players, language masters
Cubicles for private listening
Comfortable seating
Vertical display areas
Horizontal work surface
Design Requirements
•Provide individual activity areas where children can manipulate seating and reclining furniture
100 square feet
Note
Reading quality light
Quiet
Moderately private

Typical sheet for a reading/listening center.

Planning began with focusing on the child as the basic unit of development. Next, the design participation phase involved the collection of behavioral data related to each activity in which infants, toddlers, and preschoolers would be engaged. The conceptual framework used for the design of the facility was the learning center. The teaching staff (client) identified the developmental objectives that would occur in the learning center for each activity, by age group.

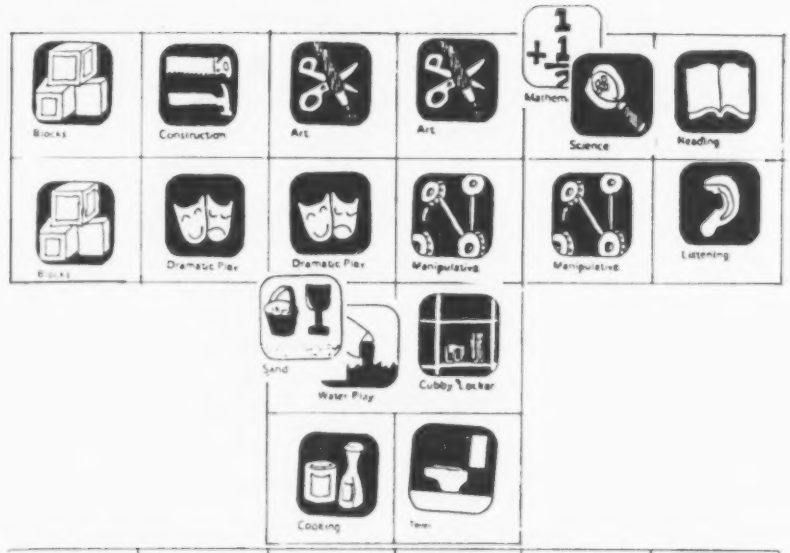
The water play area, for example, the objectives of which would include sensory and perceptual acuity, concept formation, and eye-hand coordination, would involve such activities as pouring, mixing, and floating objects, all of which are related to the primary activity of the learning center. Activity data sheets recorded the relevant activity information that served as a program and resource for future decisions. The data sheets provided a format in which specific equipment needs could also be identified for future purchasing.

Since the design and planning of a children's center reflect a particular ideology about child development, a space planning exercise engaged the teaching staff in

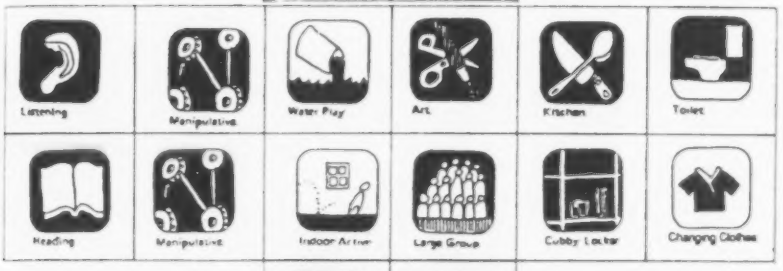
decisions related to playroom layout. A planning guide of 50 square feet of usable space per child limited the number of learning centers that could be included in a playroom. This constraint encouraged the teaching staff to use "trade-offs" effectively since they were required to decide which learning centers were most important for various age groups. Graphic symbols corresponding to each learning center enabled the manipulation of children's movement patterns in the playroom. Spatially organizing learning centers on a grid corresponding to the shape of a playroom permitted the determination of which centers were to remain fixed and which were to be flexible. The spatial layout process required teachers to consider planning concepts, adjacency requirements, circulation, and visual and acoustic privacy between learning centers. Most of all, the process reinforced the concept of learning centers.

Example of a playroom data sheet.

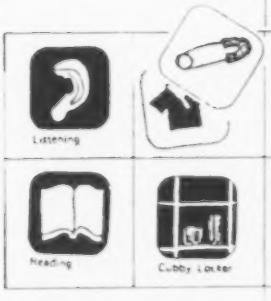
The teachers worked through each playroom layout by manipulating graphic symbols for each age group. They outlined the children's flow process from entering the playroom, greeting the staff, removing their coats in the cubbie area, and moving to various learning centers. When planning the infant room, the teachers identified the diaper change as the focal point with surveillance to all other activity areas. To avoid the clustering of unsightly cribs, the teachers proposed decentralizing the sleeping activity into a crib alcove. This process entailed group dis-

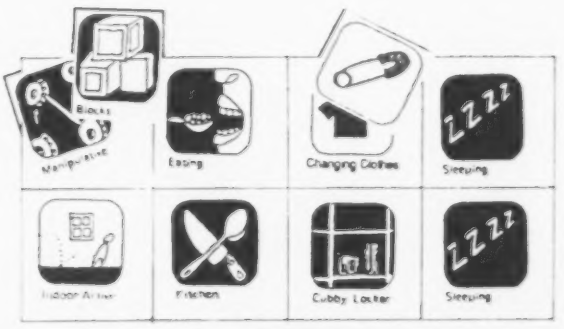


3 & 4 year olds



2 year olds





Infants

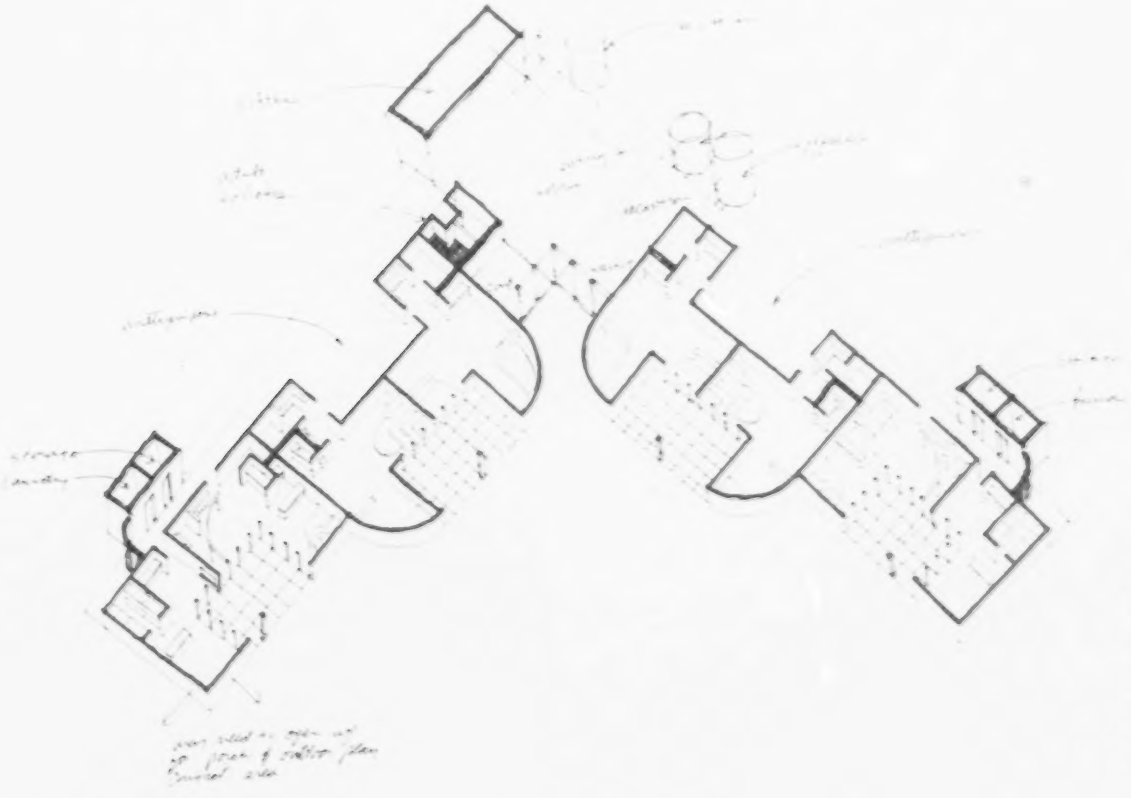
Toddlers

cussions that required consensus in all decisions. When agreement was reached, the symbols were fastened to the base sheet to constitute a record of the group's decisions. The teachers opted for "T" and "L" shaped playrooms.

Although abstract in nature, the diagrams allowed the teachers to gain an understanding of "conceptual relationships." Teachers were better able to clarify their intentions regarding the way the educational program could be enhanced in the design of the playrooms. This exercise also allowed teachers to effectively interact with the architect, where their expertise allowed the architect to make informed design decisions related to the shape of the playroom as well as the form of the building.

When the architect is an integral part of the process, the building design proposals are clearly understood by the user-client group.

The proposed plan of the children's center reflects all the ideas portrayed in the teachers diagrams. An additional factor that influenced the final design was the desire for all playrooms to face south for the most desirable daylight condition for indoor and outdoor play.



Graham Adams & Henry Sanoff

Building Assessment Scale

Adapted from *Early Childhood Rating Scale's* by T. Harms & R.M. Clifford

This assessment scale is a direct observation method of organizing your impressions of a child care center. The procedure for conducting this assessment is by a casual "walkthrough" the building beginning from the parking area, recording impressions along the trip through the building.

This scale can be used in conjunction with the *Playroom Assessment Scale* (p.58), the *Playground Assessment Scale*, or it can be used as an independent measure.

Each category should be rated on a three-point scale, where (**1**) is adequate, (**2**) is fair, and (**3**) is good. The highest score attainable is 27 points, and the lowest possible score is 9 points.

Building Size

__(1) Group size is less than 60 or more than 75 children; everyone enters the building at the same point; no separation between age groups.

__(2) Everyone enters at same point; building, however is clustered in groups of 60 to 75 children.

__(3) Between 60 to 75 children, or separate entrance for each group of 60 to 75 children.

Building Image

__(1) Lack of friendliness or imposing scale

__(2) Home-like scale, warm building materials

__(3) Inviting appearance, building "belongs" to children

Building Organization

__(1) Unclear circulation patterns; chaos and disorganization impede children's use of the center; double-function among spaces (staff and children's areas); parking and service access interferes with activities.

__(2) Clear circulation patterns; clear organization of space; staff areas separated from children's activity areas.

__(3) Clear organization of space; circulation path through the building is clear; spatial separation between areas, but visual connection; parking and service access away from children's activity areas.

Building Entrance

__(1) Obstructed views,

__(2) Inviting and familiar entrance (warm colors, bright accents, plants); visibility of major areas by adults and children.

__(3) First sight from the entry is clear and familiar; views are unobstructed to other parts of the building; soft lighting, accent colors, comfortable furniture, and plants.

Individual Spaces

__(1) No privacy at all, double functioning space for different activities.

__(2) Functional areas separated from activity areas; each major activity has an appropriate area.

__(3) Individual spaces for each activity in the facility; entry-reception, director's office, kitchen, playrooms, restrooms, indoor and outdoor play, laundry, sick area, staff area.

Adult Personal Area

__(1) No special adult areas (no separate restroom, lounge, or storage for personal belongings).

__(2) Either separate adult restroom or lounge provided; adult furniture; central storage for teacher's belongings.

__(3) Adult restroom and lounge separate from children's activity areas; comfortable adult furniture; individual storage for personal belongings in the playroom, with safety provisions if necessary.

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Meeting Area

__(1) No suitable area for teacher or parent group meetings or individual conferences during the day.

__(2) Meeting area and conference space are satisfactory (dual use if properly scheduled)

__(3) Meeting and conference area separate from children's activity areas and other dual use.

Indoor Active Play

__(1) No provision for indoor or outdoor active play during bad weather.

__(2) Indoor active play area provided in playroom large enough to accommodate large muscle development.

__(3) An area designated for large muscle development independent of bad weather.

Indoor-Outdoor Connection

__(1) Visual break or sharp change; no continuity of activity in the transition between indoor and outdoor activities; few window connections; unnecessary steps, ramps, or elevation changes.

__(2) Direct access between each playroom and outdoor play areas.

__(3) Covered play area between each playroom and outdoor play area encouraging children to use both spaces.

Total Score____/27 = ____%

Unit 6 PLANNING OUTDOOR PLAY

In an early childhood center, the playground is an outside learning environment, in effect an outdoor playroom, requiring ample provision of space to provide a wealth of play options.

Initially, young children learn from first-hand experience. Therefore, the importance of the child's experience within the physical environment soon becomes apparent. Young children can and will play anywhere at any time, but to fully realize their potential they will need an enriching environment. Such an environment should be assessed by the amount of primary experience it offers, and by whether it allows young children to make their own decisions and have a measure of control over what they do. To develop their powers of imagination and their creativity, children will need easy access to a wide range of diverse activities, with plenty of well-organized space to allow them scope and room for play.

Child development authorities all agree on the importance of outdoor activity spaces for child care centers, and on the importance of ease of movement for children and teachers between indoors and outdoors. The design of indoor and outdoor activity spaces should follow the same developmental goals and design principles. An important design issue is the proximity between indoor and outdoor spaces to encourage a free flow of children and activities dependng on climate and weather. Appropriate design of the indoor-outdoor relationship will encourage children to use both areas. In general, it is desirable to establish the indoor and outdoor environment as equally important activity spaces. There should be a continuity of activity in the relation and transition of indoor and outdoor areas.

The major objective is to create a playscape encompassing the total supervisable area, and one that is an aesthetically pleasing and effective setting for children of three to five years. A well-designed playscape is a stage on which the children are the players and equipment, both fixed and movable, and unstructured play materials are the props.

There are universal forms of play, developmental in nature, that occur naturally and spontaneously when children have the freedom to move and interesting objects to explore. These forms are commonly categorized as social or cognitive. The cognitive forms of play are function or exercise, constructive, dramatic or symbolic and games with rules or organized games. Each form is important in the enhancement of social, cognitive, and motor development.

An understanding of play development is necessary for effective playground zoning. The playscape must be capable of supporting every form of play naturally engaged in by children in order to achieve the developmental advantages afforded by play.

Different forms of social play can be accommodated by places for quiet, solitary play and places for cooperative and socio-dramatic play. The developmental nature of play suggests that children engage in solitary play before they grow into cooperative play. Social forms of play merge into one another as development continues. Dramatic play can incorporate functional and constructive play. Therefore, equipping and zoning the

playscape requires the consideration of several factors.

Integration and transition are general factors that can influence the arrangement and choice of play equipment. Equipment that allows for a sequence of activities to occur will encourage the integration of multiple forms of play. Play structures and equipment should be arranged for integration of play across playspace and between play structures. Various forms of play can be fostered by certain pieces of equipment and this equipment should be zoned into a compact area. These play zones should be defined by boundaries that set them apart functionally and visually and integrate them spatially with adjacent zones. Visual boundaries may take many forms such as changes in surface materials and textures.

Zones should be arranged to allow for movement within and between zones. They can also be arranged according to increasing difficulty of play structures. Zones such as gardening or animal tending would require clear spatial boundaries.

In the same way that learning centers define the playroom, play zones describe the playscape. A process for planning outdoor play aims to integrate learning objectives with outdoor activities, the equipment or play structures that facilitate these activities, and the organization of the playscape into play zones. Examples of play zones are as follows:

Play Zones

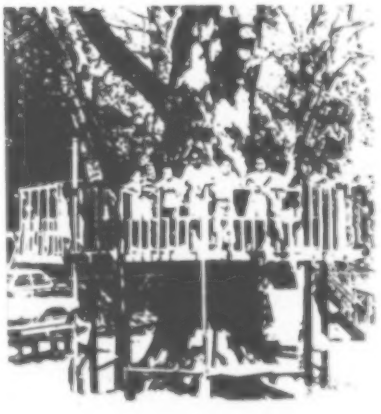
•*Adventure Play Zone:* Children spontaneously build and rebuild their environment. Therefore, storage is necessary for a variety of materials with which to build.

Nancy Rudolph

•*Dramatic Play Zone:* Children exercise their imagination to create roles. They pretend, make believe or assume a role. Play props such as dress-up clothes, play house.

George Zimbel

•*Imaginative Play Zone:* Children exercise imagination and limited muscular effort, but no object is necessarily produced.



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Large Muscle Development Zone: Children overcome physical and mental obstacles, exercising all possible muscles. This would include throwing, catching, kicking, jumping, and swinging. Perceptual-motor skills develop naturally during free play.

•***Manipulative Play Zone:*** Children develop coordination skills frequently with repetitive motion. They develop fine motor and cognitive skills in the process of solving problems.

•***Nature Play Zone:*** Children interact with natural objects. Natural materials, such as pebbles, rocks, leaves, sticks, etc., can be stacked, poured and manipulated in a variety of ways. Trees and vegetation can be used to provide shade, to establish boundaries between zones, and to create hideaways. Vegetation, such as leaves, flowers, fruits and nuts are play props that can stimulate exploration, discovery and imagination.

• ***Open Area Play Zone:*** Children use large spaces for group games and individual activities that may require hard and soft surfaces. Hard surfaces are necessary for wheeled vehicles and wheeled toys.

• ***Private Play Zone:*** Children use small protected areas for individual or quiet activities. Intimate enclosures stimulate close social contact. Meeting spaces can be built into play structures though they need a sense of identity.

Kelo Palka

A valuable resource for outdoor play is *Play for All Guidelines* by R. Moore, S. Goltsman, and D.S. Iacofano.

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PLANNING OUTDOOR PLAY (POP)

Planning outdoor play is a group process requiring from three to five participants. Each step in the process requires an individual decision, group discussion, then a group consensus.

OBJECTIVES (The purpose of outdoor play)

Select four of the most important outdoor play objectives from those listed. *(The objectives should correspond to a specific age group and their developmental stage).* ***Next, discuss your individual objectives and record below those that result from group agreement.***

OUTDOOR OBJECTIVES

_Communication Skills
_Concept Formation
_Cooperation
_Emotional Develpoment
_Exploratory Play
_Language Development
_Perceptual Development
_Positive Self Image
_Problem Solving
_Self-Confidence
_Self-Expression
_Self-Motivation
_Sensory Devlopment
_Social Development

Objective **A**_____

Objective **B**_____

Objective **C**_____

Objective **D**_____

ACTIVITIES (What children do outdoors)

Select three activities from the list that satisfies each objective. *As a group, discuss the individual selections and record those reached by consensus.*

OUTDOOR ACTIVITIES

__Swinging
__Role Playing
__Throwing and Catching
__Digging
__Balancing
__Climbing
__Pouring-Splashing
__Stretching
__Crawling
__Feeling and Handling
__Body Contact w/ Animals
__Painting
__Sliding
__Constructing
__Vehicular Motion
__Dressing Up
__Mixing
__Cooking
__Sitting

Objective A

Activity 1. _____
Activity 2. _____
Activity 3. _____

Objective B

Activity 1. _____
Activity 2. _____
Activity 3. _____

Objective C

Activity 1. _____
Activity 2. _____
Activity 3. _____

Objective D

Activity 1. _____
Activity 2. _____
Activity 3. _____

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Zones and Activities

Place each activity from those previously selected in the appropriate zone. Next, select a graphic symbol that corresponds to each activity. Arrange the symbols according to zones on the grid located on page 95 (Note: the same activity may occur in several zones).

Zones	Activities
Adventure	_____
	_____
	_____
	_____
Dramatic Play	_____
	_____
	_____
	_____
Imaginative Play	_____
	_____
	_____
	_____
Large Muscle Development	_____
	_____
	_____
	_____
Manipulative Play	_____
	_____
	_____
	_____
Nature Play	_____
	_____
	_____
	_____
Open Area Play	_____
	_____
	_____
	_____
Private Play	_____
	_____
	_____
	_____

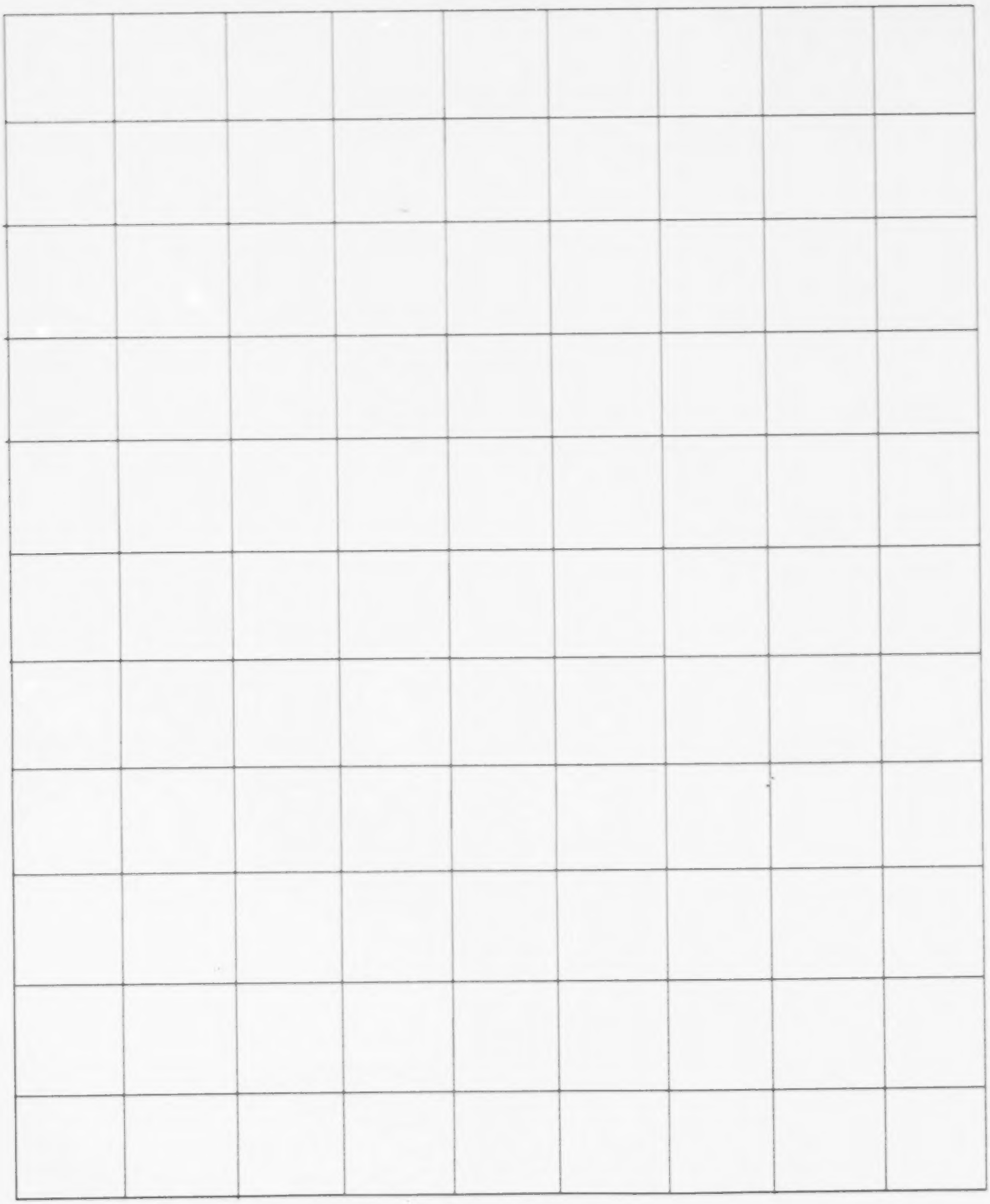
Zones and Activities

Zones	Activities
Adventure	constructing digging
Dramatic Play	role-playing dressing-up
Imaginative Play	mixing painting pouring
Large Muscle Development	swinging balancing climbing crawling
Manipulative Play	mixing cooking
Nature Play	planting feeling & handling contact w/animals
Open Area Play	throwing & catching vehicular motion stretching sliding
Private Play	painting pouring-splashing

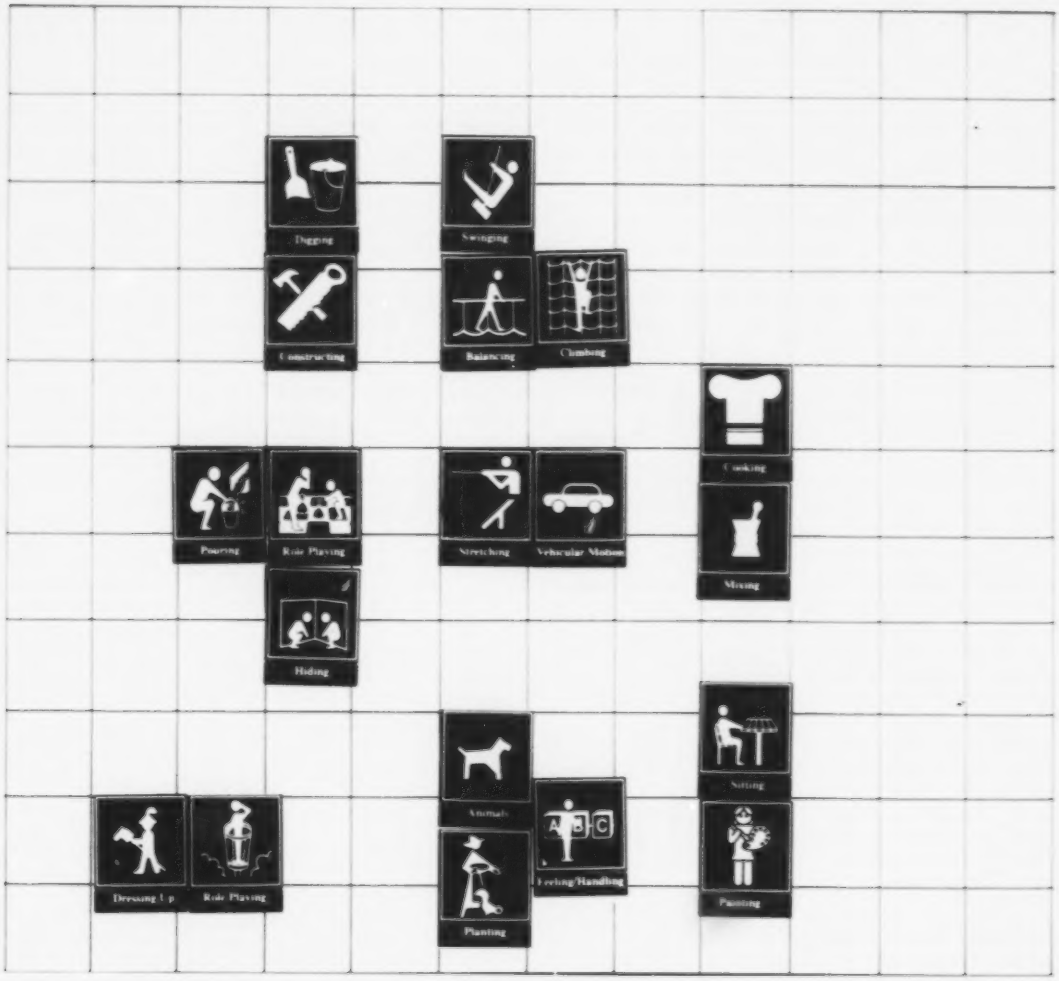
Example of activities organized into play zones.

Graphic Symbols for Outdoor Play

Spatial Layout Grid



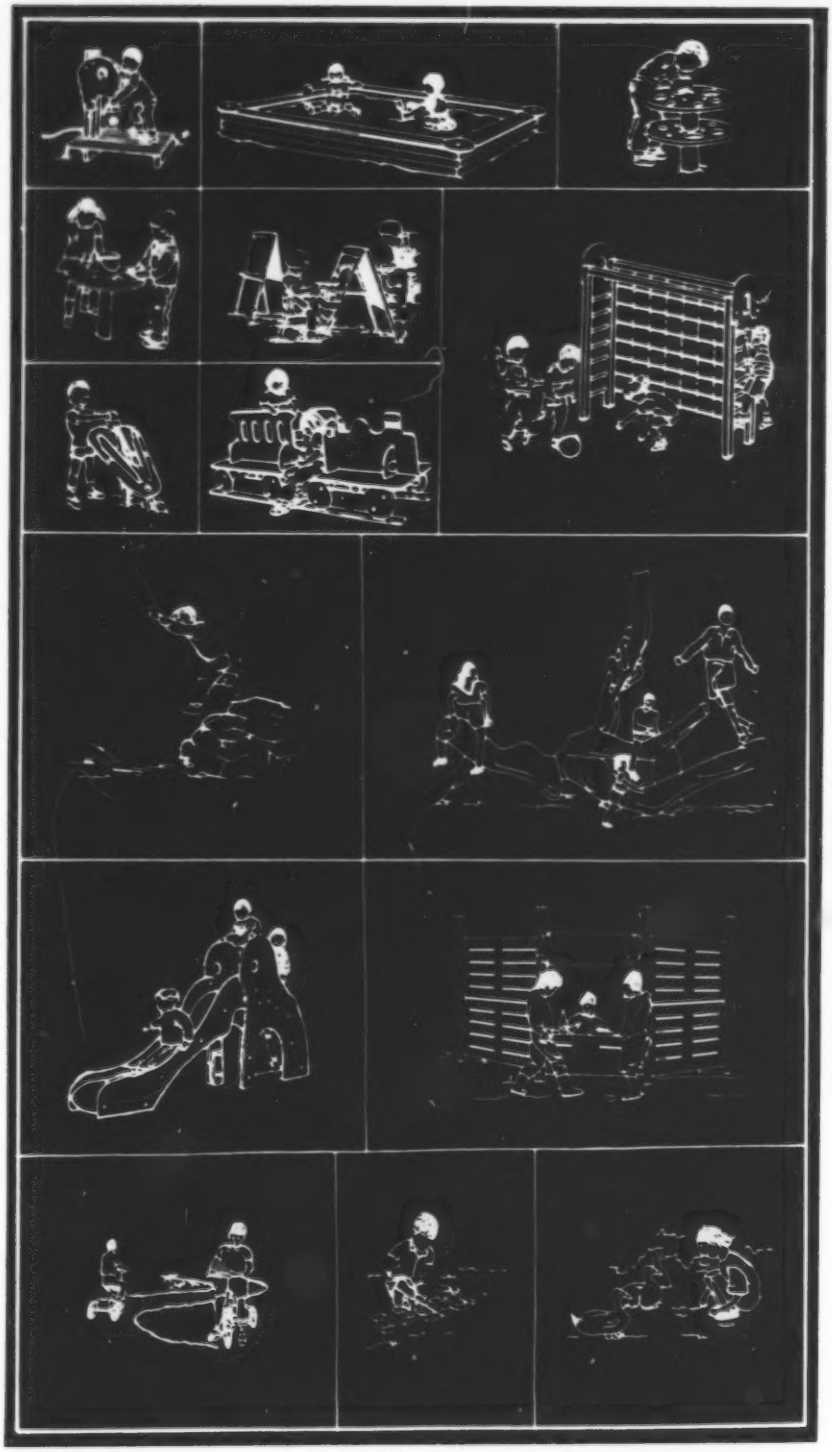
Examples of Graphic Symbols Organized into Play Zones

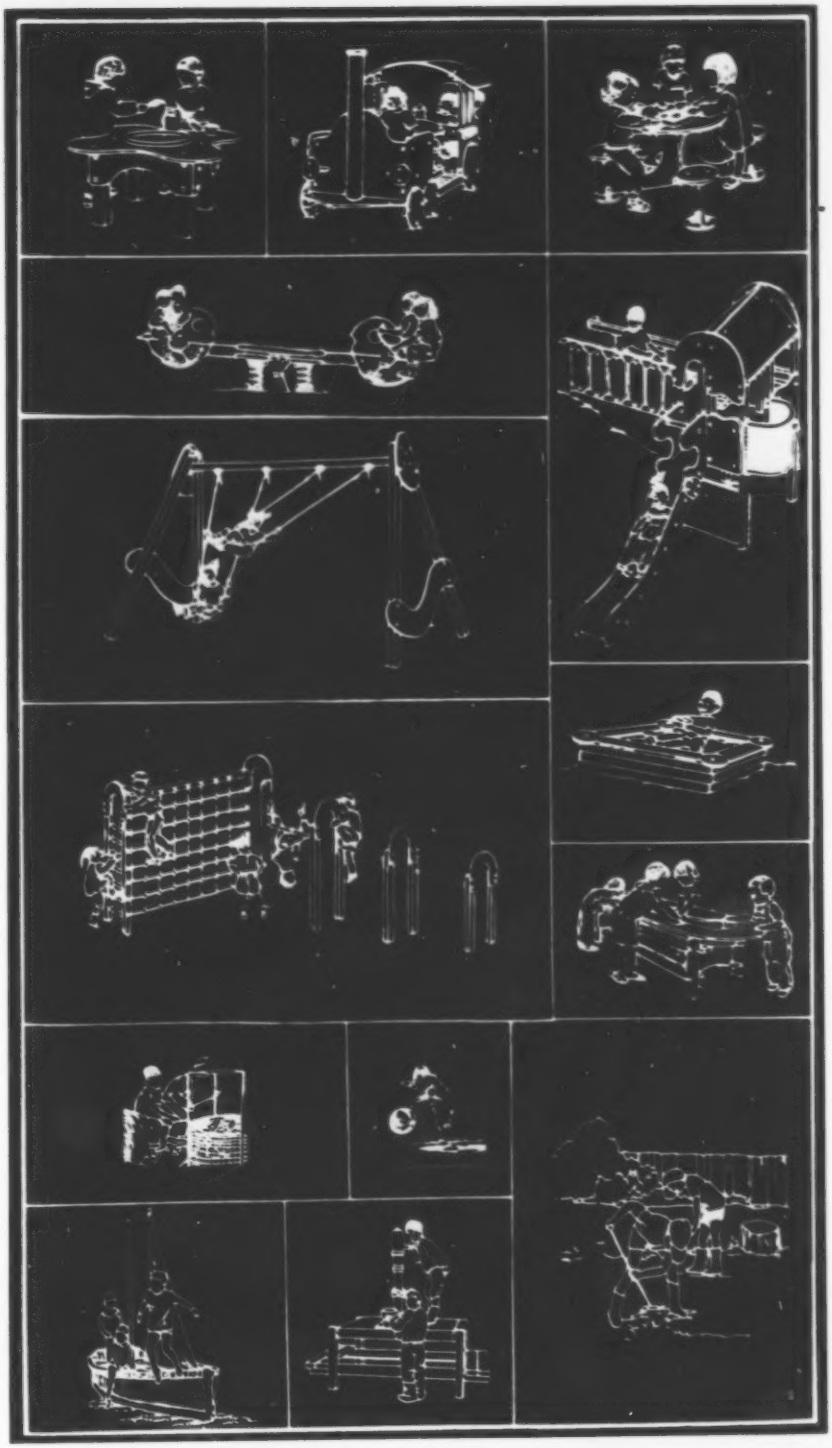


Zones and Play Settings (P/S)

Once the activities have been organized into zones, play equipment and props can be selected and arranged on a large sheet of paper (11 in. x 14 in. or larger). Select the play structure or prop for each activity and record the matching play setting (the drawings of play structures are taken from the Kompan catalog). When all the play settings have been identified they can be arranged in a manner similar to the procedure used in placing the graphic symbols.

Zones	Activities	P/S
Adventure	_____	___
	_____	___
	_____	___
	_____	___
Dramatic Play	_____	___
	_____	___
	_____	___
	_____	___
Imaginative Play	_____	___
	_____	___
	_____	___
	_____	___
Large Muscle Development	_____	___
	_____	___
	_____	___
	_____	___
Manipulative Play	_____	___
	_____	___
	_____	___
	_____	___
Nature Play	_____	___
	_____	___
	_____	___
	_____	___
Open Area Play	_____	___
	_____	___
	_____	___
	_____	___
Private Play	_____	___
	_____	___
	_____	___
	_____	___





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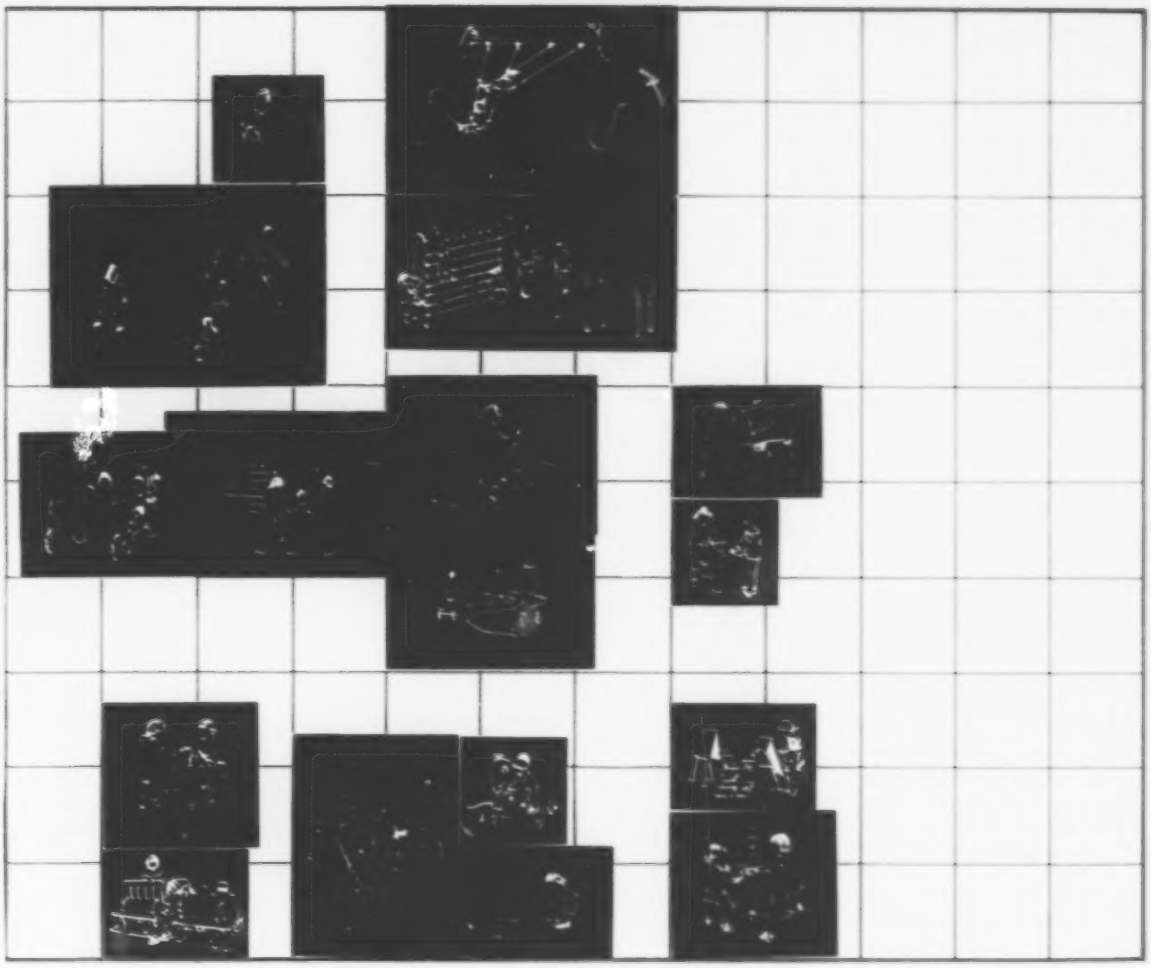
Examples of Play Settings Organized into Play Zones



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Playground Safety

Spatial arrangement, playground equipment, surface materials and maintenance all contribute to a developmentally appropriate and *safe* outdoor play environment. While proper supervision and playground rules are necessary, there are also design factors that can help to prevent playground injuries.

Careful planning is necessary to establish traffic patterns so children can move safely between activities. Traffic lanes should be clear and large enough to allow children to freely run, skip and jump, and should be separated from streets designated for wheeled vehicles.

Play zones with moving equipment, such as swings, generally requires a large surrounding space or fall zone. Resilient or impact absorbing materials should cover all areas where children might jump or fall. Pine bark mulch, shredded wood, shredded tires and commercially available mats are equally effective, yet all have advantages and disadvantages such as wear, weatherability and cost. Concrete and asphalt surfaces can cause serious injury to children and should not be used to support equipment or used in a fall zone.

Playground maintenance can also be regarded as an effective factor in preventing injuries. Weather and erosion are natural causes of equipment and surface deterioration. Moving parts wear away, wood surfaces often require refinishing, and other surface materials may require cleaning or replenishing. As a result, regular maintenance is necessary.

The **Playground Assessment Scale** is a comprehensive tool for examining existing outdoor play areas from the viewpoint of a safe and developmentally appropriate playground. Whether constructing new playgrounds or rehabilitating existing ones, this assessment allows for the playground site to be analyzed for its appropriateness as a children's play and learning environment. This assessment is a necessary first step towards developing a site development plan. A development plan is basically a set of goals for the site and a program of activities to meet these goals. Included in the development plan is a thorough inventory of the characteristics of the site including natural features and existing equipment. A phased plan can then be created to prioritize improvements as funds become available. Consideration should be given to ensure that all children's play environments are accessible to children with dfferent abilities.

PLAYGROUND ASSESSMENT SCALE

The spatial layout of a playscape is an important factor to be considered for the integration between learning objectives and children's physical activities.

The playscape can be designed to achieve specific learning objectives, and to create defined play zones that allow for integrating a variety of outdoor activities. The quality of the playscape is determined by various criteria. Eight different criteria have been identified to assess a playscape. Each criterion helps to explore a different factor.

Rate a playscape you are familiar with using the rating scale below:

_____ *(1) Inadequate*
_____ *(2) Fair*
_____ *(3) Adequate*

SPATIAL ORGANIZATION

_____ **(1)** The overall arrangement and the equipment setting encourage individual activities rather than group activities.

_____ **(2)** Some play areas in the playground encourage interaction between children.

_____ **(3)** The overall arrangement and the equipment setting promote interaction and encourage individual and group activities.

OUTDOOR/INDOOR CONNECTION

_____ **(1)** No continuity of activity in the transition between outdoors and indoors. Few window connections to outdoors with unnecessary steps.

_____ **(2)** Transitional space for shade and weather protection. Location of windows allows for contact with nature.

_____ **(3)** Design of outdoor/indoor relation encourages integrating formal and informal learning in both.

VARIETY OF ACTIVITIES

_____ **(1)** Low number of activities (less than 4 different types of activities).

_____ **(2)** Medium number of activities (at least 6 different types of activities).

_____ **(3)** Wide variety of play experiences (more than 8 different types of activities). A wide range of play equipment for different levels of large motor/movement skills..

Physical Design of Equipment

_____ **(1)** The design of equipment does not allow for different experiences. Low degree of challenge.

_____ **(2)** The design of equipment allows for a small range of experiences, and provides typical children's physical activities.

_____ **(3)** The design allows for high degree of challenge, wide range of experiences, and sequential motor activities for different abilities.

Zoning Activities

_____ **(1)** No activity areas defined. Double function between activity areas. Play space is inconveniently arranged.

_____ **(2)** Play areas vary in space, size, and location. Some links between activities.

_____ **(3)** Clear/defined activity areas which facilitate the choice of activities. All areas are inter-connected which provides easy supervision.

Circulation Path

_____ **(1)** Dangerous mixing of activities. Traffic patterns interfere with activities.

_____ **(2)** Clear separation of activity areas from circulation path.

_____ **(3)** Activity areas are clearly separated from main circulation. All activities are visible from circulation. Continuing options available when a child comes to the end of one activity.

Safety

_____ (1) Equipment unsafe, not well maintained, and unsafe walkways. Conventional play equipment (metal, or hard plastic).

_____ (2) Safe and well maintained equipment. Ease of adult supervision.

_____ (3) Clear circulation path. Ease of adult supervision. Soft surfaces for walkways and play areas.

Year-round Use

_____ (1) Play space dries out very slowly. No planned drainage.

_____ (2) Positive drainage. Protection from summer sun, while allows winter sun to penetrate.

_____ (3) Everything in item 2 in addition to outdoor protection from winter winds.

Mapping Children's Behavior

When play space is being developed, careful thought should be given to the placement of equipment and location of play settings, since the teaching staff and children must live with the consequences.

Although children are the most effected people, they have no choice in the location or selection of play equipment. Their needs are almost completely forgotten when play areas are being designed. Important decisions are made by people who do not use the play area. Most often, decisions made about children's preferences are based on what someone believes would attract and please the child. One reason for this is that it is difficult to get information from children. Another is that children are not usually allowed to represent their own interests.

It is important to explain why a child finds one thing attractive and avoids something else. Why is the child satisfied in one place and left wanting in another? With play equipment, it must be attractive or it will not be used, but why is one slide more appealing to the child than another? The best way to learn what children want and what they are satisfied with is to observe their outdoor play behavior in order to understand what children do. Observing behavior can provide information about children's likes and dislikes by recording their choices of play settings and the amount of time they spend by themselves or in groups engaged in specific activities. Observing young children in play and in places they play can reveal how their needs are served by play when they have a free choice.

For conducting an observation study it is necessary to:

- Make a plan drawing of the play yard locating all the play settings and equipment in their approximate location.
- Make 18-24 copies of the drawing. (Children's behavior patterns become evident when there are a number of repeated observations).
- Conduct from 18 to 24 observations taken at different times of the play period and on different days. Each observation can be as short as two minutes in duration, and taken at intervals of 15 minutes. Notes should be made describing the type of activities children engage in, and whether alone or in groups.
- Record each observation on a different drawing, noting the location of each child observed in the play yard with a dot.
- On a summary plan drawing, superimpose all the individual observations. The results should reveal a pattern of behavior describing how the play yard is used. The most popular play settings can be identified from the summary diagram. The diagram can also reveal infrequently used locations. It is also appropriate to note the degree to which children invent games or things to do, and whether or not they are associated with a particular piece of equipment or play setting.

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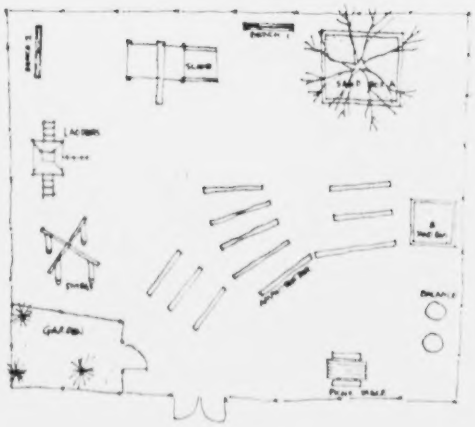
Example Case Study

(conducted by Zoe Sanoff)

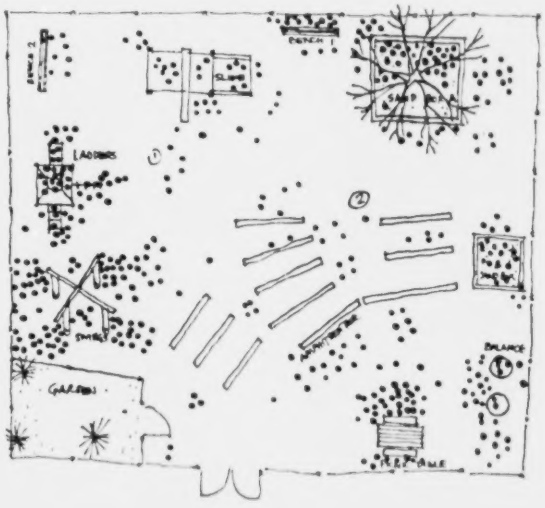
The location of the study site selected for observation is adjacent to a church sponsored children's center. The play area is designated for the use of two, three and four year old children and contains several pieces of wood play equipment constructed by parents.



Eighteen observations were made during play periods at 11:30 am and 4:30pm over a period of 21 days. There were thirteen specific locations where children's activities were observed, totalling 420 notations. The play settings where children were most frequently observed were the swings, sandbox A, ladders, and the picnic table. *(The high number of children observed at the picnic table was the result of it being the location of the observer and the interest generated from her presence).*

Most of the children were clustered around specific pieces of equipment while the amphitheater area was the least used part of the play yard. The children's activities observed at the slides, swings and ladders were not as varied as they were at the sandboxes, bench, balance beam and open area. Many games were invented in the sandboxes and in the open spaces. Even the balance beam was a location that stimulated the invention of games.

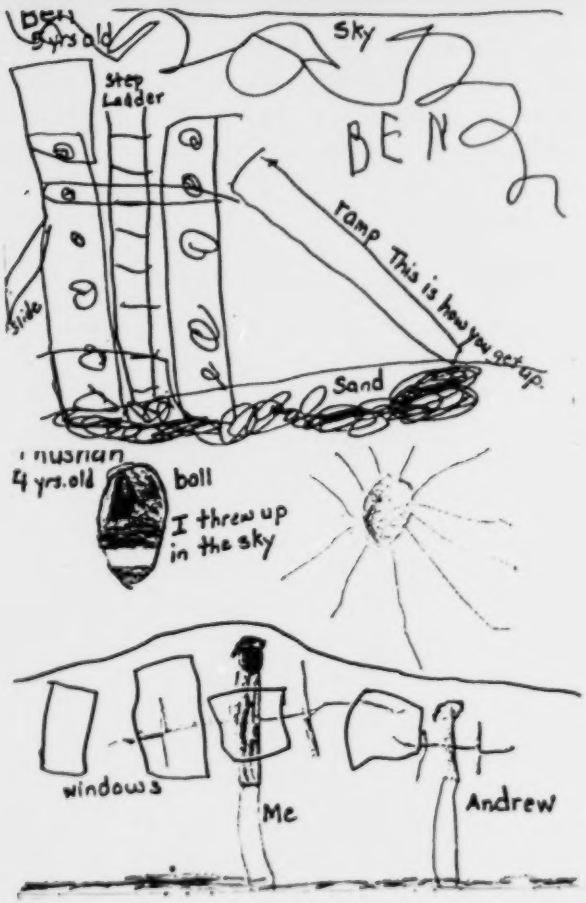
Children were always observed in groups of two, three and four. They were constantly moving between play settings even though they were playing the same game. They also remained together for the entire outdoor period if they were playing games.



From the layout of the play yard it can be observed that the choice and siting of the equipment did not consider the possibility for developing a sequence of activities between play settings. The limitations imposed by a lack of planning appropriate play settings clearly effect children's developmental opportunities. This limitation did not constrain the children's freedom to explore and invent games and activities.

Children's Drawings

To complement the observation study, children were asked by their teacher to draw a picture of their most favorite part of the play yard. Teachers were asked to interpret the drawings by naming the activity or objects drawn as a result of a discussion with each child. Drawings can then be compared to the observations conducted in the play yard. In this study, the sandbox appeared in most of the children's drawings.



Conclusion

With the increasing number of single-parent households and working mothers, and a growing emphasis on socialization experiences, school age is beginning much earlier. Many children are spending time in day-care centers and preschools. These institutional settings communicate silent messages about the intentions and values of the adults who are in control. Quite often these messages are ambiguous and sometimes conflicting. Clearly, the messages communicated by physical features of the preschool environment may influence children's behavior directly by facilitating certain activities and obstructing others.

The physical space requirements and activities of the preschool environment should reflect conceptions children develop in the home where they learn that places and spaces are shared. They learn that places in the environment are not static but continuously changing because the presence of other people changes them. Children discover who control spaces within the home and learn to respect spatial autonomy. These person-environment relationships are a part of a child's development and influence his/her future needs for privacy, territoriality, or personal space.

Physical environments for children should satisfy developmental needs. They include the fostering of personal identity, social interaction and privacy. When educators refer to children having a *sense of self*, this can only be achieved if they also have a *sense of place*. Children cannot be seen as individuals in a vacuum, rather as individuals who live in certain places and own certain objects. For young children, the home environment is normally the context in which a sense of self first develops, in contrast to the adverse effects of institutions that are impersonal environments in which children are generally not allowed to claim their individuality. Physical space must be designed to meet both needs-to facilitate contact when desired while allowing for the possibility of privacy.

This idea of place identity is equally influential in shaping the child's image of the physical world. Children need to establish a wider range of relationships to the physical world as well as to the social world. The increased awareness of the physical environment is instrumental in developing a child's self-identity.

The exercises developed for this book represent a broad range of environmental design issues that have been largely ignored in the process of planning today's preschools as well as the playrooms within the building. Consequently, teachers of young children modify their behavior and limit the educational opportunities for children in order to "make do" with inferior environmental conditions.

Whether reconfiguring an existing playroom or designing a new preschool, early childhood teachers need to be aware of the significant child-environment relationships. As advocates for the needs of preschoolers, it is necessary that teachers become better prepared to suggest means of improving the built environment. It is necessary to rethink how decisions are made, and in whose best interest, especially as the number of commercial daycare centers expand.

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